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Minimum DB seq length: 0
Maximum DB seq length: 2000000000
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 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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Copyright (c) 1993 - 2000 Comp
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JE0099
JH0464
I38049
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JC5288
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                                  neural cell adhesi
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protein-tyrosine-p
protein-tyrosine k
protein-tyrosine k
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neural cell adhesi
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CD86 spliced varia
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CD80 precursor - r
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DM-GRASP precursor
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substrate-1 pr
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101	102	102.5	103	103	103.5	103.5	103.5	104	104	104	104.5	105.5	106	106.5	106.5	
8.8	8.9	8.9	9.0	9.0	9.0	9.0	9.0	9.1	9.1	9.1	9.1	9.2	9.2	9 ω	9.3	
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cell adhesion prot	neogenin - chicken	SHP substrate-1 pr	sax-3 protein - Ca	hypothetical prote	neural cell adhesi	neural cell adhesi	fibroblast growth	neural cell adhesi	neural cell adhesi	T-cell receptor be	Ig kappa chain V r	neural cell adhesi	T-cell receptor be	neural cell adhesi	amalgam protein pr	

ALIGNMENTS

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A;Gene: GDB:CD80; CD28LG1; CD28
A;Gene: GDB:CD80; CD28LG1; CD28
A;Cross-references: GDB:251792; OMIM:112203
A;Map position: 3q13.3-3q21
A;Introns: 34/1; 140/1; 234/1; 266/1
C;Superfamily: B-lymphocyte restricted antigen B7
C;Keywords: transmembrane protein
C;Keywords: transmembrane protein
C;Keywords: signal sequence #status predicted <TMM>
F;248-264/Domain: transmembrane #status predicted <TMM>
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R;Freeman, G.J.; Freedman, A.S.; Segil, J.M.; Lee, G.; Whitman, J.F.; Nadler, L.M.
J. Immunol. 143, 2714-2722, 1989
A;Title: B7, a new member of the Ig superfamily with unique expression on activated A;Reference number: A43803; MUID:90010147
A;Accession: A48803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R;Selvakumar, A.; Mohanraj, B.K.; Eddy, R.L.; Shows, T.B.; White, P.C.; Dupont, Immunogenetics 36, 175-181, 1992
A;Title: Genomic organization and chromosomal location of the human gene encoding A; Reference number: I54495; MUID:92307753
A;Accession: I54495
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                                                                                                                                                                                                                                                                                                         Qy
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A; Residues: 1-288 < RES>
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A; Residues: 1-288 <FRE>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 216; Conservative 0;
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                                                                                                                                                                                                                                                            YKNRTIFDITNNLSIVILALRDSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
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                                                  ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF
                                                                                                                                                                                                               YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS
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Pred. No. 2.1e-85;
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181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216

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CD80 precursor - rabbit
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 14-Feb-1997 #sequence_revision 14-Feb-1997 #text_change 29-Sep-1999
C;Accession: I46690
R;Isono, T.; Seto, A.
Immunogenetics 42, 217-220, 1995
Immunogenetics 42, 217-220, 1995
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A; Accession: I46690
                                                                                                                                                                                                                                                        C; Superfamily: B-lymphocyte restricted antigen B7
                                                                                                                                                                                                                                                                                             A; Molecule type: mRNA
A; Residues: 1-299 <ISO>
                                                                                                                                                                                                                                                                                                                                A; Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                             A; Title: Cloning and sequencing of the rabbit gene encoding A; Reference number: I46689; MUID:95369849
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R;Villinger, F.J.
submitted to the EMBL Data Library, January 1995
A:Reference number: G00217
A:Accession: G00031
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C;Superfamily: B-lymphocyte restricted antigen
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A; Residues: 1-289 <VIL>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
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                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                Matches 133;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              208 MTTNHSFVCLIKYGHLRVNQTFNWNTPKQEHFPDN 242
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                                64
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       62 KNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPSI 121
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                                  RTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPSISD 123
                                                                                                                HFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPEYKN 63
HFSSGISQVTKSVKEMAALSCDYNISIDELARMRIYWQKDQQMVLSIISGQVEVWPEYKN 88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYCQKEKKMVLTMISGDMNIWPEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LSHFCSGVIHYTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPEY 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TDFEIPPSNIRRIICSTSGGFPEPHLSWLENGGELNAIDTTVSQDPETELYTVSSKLDFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVMLSVKADFPTPSI 147
                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        94.4%;
                                                                                                                                                                                64.2%;
63.9%;
                                                                                                                                                             36;
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                                                                                                                                                                            Score 738; DB 2;
Pred. No. 3.3e-52;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 1085; DB 2,
Pred. No. 3.1e-80,
                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В7
                                                                                                                                                           39;
                                                                                                                                                                                              Length 299
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                                                                                                                                                         Indels
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                                                                                                                                                                                                                                                                                                                                                                                         T-cell costimulatory molecu
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                                                                                                                                                         Gaps
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B-lymphocyte activation antigen 7 precursor - mouse N;Alternate names: MB7-2 C;Species: Mus musculus (house mouse) C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 29-Sep-1999 C;Accession: I49503; S17291; I49521 R;Selvakumar, A; White, P.C.; Dupont, B. Immunogenetics 38, 292-295, 1993
      A; Molecule type: mRNA
A; Residues: 1-274, 'R', 279-309 <FRE>
A; Cross-references: EMBL: X60958; NI
                                                                                                     A;Title: Structure, expression, and T cell costimulatory activity of the murine homol A;Reference number: S17291; MUID:91341422
A;Accession: S17291
                                                                                                                                                                                                R; Freeman, G.J.; Gray, G.S.; Gir
J. Exp. Med. 174, 625-631, 1991
                                                                                                                                                                                                                                                  A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-309 <RES>
A;Cross-references: GB:L12589; NID:g293299; PIDN:AAA37240.1; PID:g293301
                                                                                                                                                                                                                                                                                                                                                                                            A:Reference number: I49503; MUID:93307789
A;Accession: I49503
                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Title: Genomic organization of the murine B-lymphocyte activation antigen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Molecule type: mRNA
A;Residues: 1-321 <RES
A;Cross-references: EMBL:U05593; NID:9453381; PIDN:AAA80154.1; PID:9453382
C;Superfamily: B-lymphocyte restricted antigen B7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C;Accession: I54766
R;Judge, T.A.; Liu, M.; Christensen, P.J.; Fak, J.J.; Turka, L.A.
Int. Immunol. 7, 171-178, 1995
A;Title: Cloning the rat homolog of the CD28/CTLA-4-ligand B7-1: structural and funct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Reference number: I54766; MUID:95252184
A;Accession: I54766
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C;Accession: I54766
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Status: preliminary; translated from GB/EMBL/DDB:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     151 NITEYGNPSADIKRITCFASGGFPKPRLSWLENGRELNGINTTISQDPESELYTISSQLD 210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120 SISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLD 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  209 NNHSIVCLIKYGELSVSQIFPWSKPKQE 236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              91 KYKNRTVYDIANNYSFSLLGLILSDRGTYTCVVQRYEGGSYVVKHLTTVELSVRADFPTP 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60 EYKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTP 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31 GLLQISSGIVGQVSKSVREKALLSCDYKFCSEEQSIHRIYWQKHDKMVLSVISGVPEVWP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FNATYDHFIDCFIEYGDAHVSQNFTW 236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDFNMT 183
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EMBL: X60958; NID: g50111; PIDN: CAA43291.1; PID: g50112
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Pred. No. 3.7e-41;
                                                                                                                                                                                                                       C.D.; Lombard, D.B.; Zhou, L.J.; White, M.; Finge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 2;
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R; Inobe, M.; Linsley, P.S.; Ledbetter, J.A.; Nagai, Y.; Tamakoshi, M.; Uede, T.
Blochem. Biophys. Res. Commun. 200, 443-449, 1994
A; Title: Identification of an alternatively spliced form of the murine homologue of B7.
A; Reference number: I49521; MUID:94220123
A; Accession: I49521
A; Status: translated from GB/EMBL/DDBJ
A; Molecule type: mRNA
A; Residues: 1-143,238-274,'R',279-309 <RE2>
A; Cross-references: GB:D16220; NID:9505118; PIDN:BAA03748.1; PID:g994769
C; Genetics:
B7
A; Gene: B7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C; Accession: JC7604
R; Magistrelli, G; Caron, G; Gauchat, J.F.; Jeannin, P.; Bonnefoy, J.Y.; Delneste, Blochem. Blophys. Res. Commun. 280, 1211-1215, 2001
A; Title: Identification of an alternatively spliced variant of human CD86 mRNA. A; Reference number: JC7604; MUID:21092744; PMID:11162656
A; Accession: JC7604
A; Accession: JC7604
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C;Superfamily: B-lymphocyte restrict
C;Keywords: alternative splicing
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C; Keywords: immune response
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A; Residues: 1-275 < MAG>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;Comment: This CD86 variant expressed by activated
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    192 IKYGHLRVNQTFNWNTTKQEHFPDN 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          101 TYSLIILGLVLSDRGTYSCVVQKKERGTYEVKHLALVKLSIKADFSTPNITESGNPSADT 160
    176 SKLDF---NMTTNHSFMCLIKYGHLRVNQ---TFNWNTTKQE---
                                             140
                                                                                           130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        72 NLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPSISDFEIPTSNI 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     42 LSKSVKDKVLLPCRYNSPHEDESEDRIYWOKHDKVVLSVIAGKLKVWPEYKNRTLYDNT- 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                        84 SDSWTLRLHNLQIKDKGLYQCIIHHKKPTGMIRIHQMNSELSVLANFSQPEI----VPIS
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                                                                                                                                                                                                                            ETADLPCQFANSQNQSLSELV----VFWQDQENLVLNEVYLGKEKFDSVHSKYMGRTSFD- 83
                                                                                                                                                                                                                                                           EVATLSC----GHNVSVEELAQTRIYWQKEKKMVLTMM----SGDMNIWPEYKNRTIFDI 69
                                                                                                                                                                                 TNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPSISDFEIPTS 129
                                             NITENVYINLTCSSIHGYPEPKKMSVL----LRTKNSTIEYDGIMQKSQDNVTELYDVS
                                                                                      NIR-----RIICSTSGGFPEP-HLSWLENGEELNAINTTV------SQDPETELYAVS 175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                104;
                                                                                                                                                                                                                                                                                                                       65; Conser
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                                                                                                                                                                                                                                                                                                                                          16.1%; Score 185; DB 2; 27.4%; Pred. No. 1.3e-07;
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    -----HFPD 215
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C;Species: Homo sapiens (man)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
C;Accession: A48754; S39055
               R;Freeman, G.J.; Borriello, F.; Hodes, R.J.; Reiser, H.; Gribben, J.G.; Ng, J.W.; Kim J. Exp. Med. 178, 2185-2192, 1993
A;Title: Murine B7-2, an alternative CTLA4 counter-receptor that costimulates T cell A;Reference number: I49522; MUID:94065585
A;Accession: I49522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Science 262, 909-911, 1993

A;Title: Cloning of B7-2: a CTLA-4 counter-receptor that costimulates human T cell pr A;Reference number: A48754; MUID:94053735

A;Accession: A48754
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A;Map position: 3q13.3-3q21
C;Superfamily: B7-2 antigen
C;Keywords: glycoprotein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Title: B70 antigen is a second ligand for CTLA-4 and CD28. A;Reference number: S39055; MUID:94050123
A;Accession: S39055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross-references: GB:L25259; NID:g416368; PIDN:AAA58389.1; PID:g416369 A;Note: it is uncertain whether Met-1 or Met-7 is the initiator R;Azuma, M.; Ito, D.; Yagita, H.; Okumura, K.; Phillips, J.H.; Lanier, L. Nature 366, 76-79, 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N;Alternate names: B70 glycoprotein; CD86 antigen; CTLA-4 counter-receptor
                                                                                                                                                                                                   C;Species: Mus musculus (house mouse)
C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 23-Jul-1999
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A; Residues: 7-329 <AZU>
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A; Status: preliminary; translated from GB/EMBL/DDBJ
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                                                                                                                                                                                                                                                                                                                                                                                                         201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  176 SKLDF---NMTTNHSFMCLIKYGHLRV 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        146
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       90 SDSWTLRLHNLQIKDKGLYQCIIHHKKPTGMIRIHQMNSELSVLANFSQPEI----VPIS 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   34 ETADLPCQFANSQNQSLSELV---VFWQDQENLVLNEVYLGKEKFDSVHSKYMGRTSFD- 89
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18 EVATLSC----GHNVSVEELAQTRIYWQKEKKMVLTMM----SGDMNIWPEYKNRTIFDI 69
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NITENVYINLTCSSIHGYPEPKKMSVL-----LRTKNSTIEYDGIMQKSQDNVTELYDVS
                                                                                                                                                                                                                                                                                                                                                                                                            ISLSVSFPDVTSNMTIFCILETDKTRL 227
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60; Conserv
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29.0%;
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Pred. No. 2.7e-07;
88; Mismatches 71
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Somoza,

10;

A; Molecule type: mRNA A; Residues: 1-309 < RES>

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alcam - human
C;Species: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Date: 06-Sep-1996 #sequence_revision 06-Sep-1996 #text_change 21-Jul-2000
C;Accession: I39428
R;Bowen, M.A.; Patel, D.D.; Lt, X.; Modrell, B.; Malacko, A.R.; Wang, W.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C;Accession: I46691
R;Isono, T.; Seto, A.
R;Isono, T.; Seto, A.
Immunogenetics 42, 217-220, 1995
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A; Residues: 1-330 <ISO>
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A;Accession: 146691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 14-Feb-1997 #sequence_revision 14-Feb-1997 #text_change 23-Jul-1999
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C;Superfamily: B7-2 antigen
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Best Local (
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                                                                                                                                                                                                                                                 177 KLDF-NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFP 214
                                                                                                                                                                                                                                                                                           148 TRNSAINLTCSSVQGYPEPKKMFF----VLKTENATTEYDGVIEKSQDNVTGLYNISISG
                                                                                                                                                                                                             204 SITFSDDIRNATIYCVL---
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                                                                                                                                                                                                                                                                                                                                                                          94 NIQLHNVQIK---DKGVYQCFVHHRGAKGLVPIYQMNSELSVLANFTQPEIT----LISNI 147
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                                                                                                                                                                                                                                                                                                                                                                                                                    NLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPSISDFEIPTSNI 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                              KTADLPCQFTNSQSRSLSELVVFWQDQERLVLYELFLGREKPDNVDPKYIGRTSFDQESW 93
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26.1%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 140.5; DB 2; Length 330; Pred. No. 0.00062;
                                                                                                                                                                                                             -QTESTETYSQ-HFP
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             A.R.; Wang, W.C.; Marquardt,
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C.Species: human herpesvirus 4, Epstein-Barr virus
C.Species: human herpesvirus 4, Epstein-Barr virus
C.Date: 25-Peb-1985 #sequence_revision 25-Feb-1985 #text_change 16-Jul-1999
C.Accession: B43045; A03792; S33058
R.Bankler, A.T.; Deininger, P.L.; Farrell, P.J.; Barrell, B.G.
Mol. Biol. Med. 1, 21-45, 1983
A.Title: Sequence analysis of the 17,166 bp EcoRI fragment C of B95-8 Epste
                                                                                                                                              RESULT 12
S70587
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A;Contents: annotation; protein coding region C;Superfamily: human herpesvirus 4 BARF1 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross-references: EMBL:V01555; NID:g59074; PIDN:CAA24809.1; PID:g1334917 R;Baer, R.; Bankier, A.T.; Biggin, M.D.; Deininger, P.L.; Farrell, P.J.; G Nature 310, 207-211, 1984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Molecule type: DNA
A; Residues: 1-221 <BAN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Reference number: A93065; MUID:85035713
A;Accession: B43045
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A;Title: Cloning, mapping, and characterization of activated leukocyte-cell adhesion
A;Reference number: I39428; MUID:95279947
A;Accession: I39428
A;Status: preliminary; translated from GB/EMBL/DDBJ
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A; Residues: 1-583 < RES>
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                167 PETELYAVSSKLDFNMT---TNHSFMCLIKY 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    119
                                                                                                                                                                                                                                                                                                                                                                        72 WPFRGFFDIHRSANTFFLVVTAANISHDGNYLCRMKLGETEVTKQEHLSVVKPLTLSVHS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity 24.5 hes 37; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity les 43; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            84
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                                                                                                                                                                                                                                                                                                                                                                                                                           YKNRTIFDI----TNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEV----TLSV-- 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QAVTAFLGERVTLTS-----YWRRVSLGPEIEVSWFKLGPGEEQVLIGRMHHDV-IFIE 71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EVATLSCGHNVSVEELAOTRIYWQK-----
                                                                                                                                                                                                                                                          ERSQFP-----DFSVLT-----VTCTVNAFPHPHVQWL 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PSKPEIVSKALFLETEQLKKLGDCISEDSYPDGNITWYRNGKVLHPLEGAVVIIFKKEMD 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PSISDFE----IPTSNIRRI-ICSTSGGFPEPHLSWLENGEELNAINTTV-----SQD 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PEYKOR--LNLSENYTLSISNARISDEKRFVCMLVT-EDNVFEAPTIVKV-----FKQ 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PEYKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPT 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11.2%; Score 129; DB 1; Length 221; 27.0%; Pred. No. 0.0031;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11.6%; Score 133.5; DB 2; 24.5%; Pred. No. 0.0046; tive 35; Mismatches 54;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----EKKMVLTMMSGDMNIWPE 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       47;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Farrell, P.J.; Gibson,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    44;
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A: Molecule type: protein
A; Residues: 34-48 <TAN1>
C; Comment: This protein is uniquely and transiently expressed on C; Keywords: glycoprotein; transmembrane protein
C; Keywords: signal sequence #status predicted <SIG>
F; 1-33/Domain: signal sequence #status predicted <SIG>
F; 34-588/Product: adhesion molecule SC1 #status predicted <ADH>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               adhesion molecule SC1 precursor - chicken
C;Specites: Gallus gallus (chicken)
C;Date: 31-Mar-1992 #sequence_revision 31-Mar-1992 #text_change 21-Jul-2000
C;Accession: JH0506; ps0270
R;Tanaka, H.; Matsul, T.; Agata, A.; Tomura, M.; Kubota, I.; McFarland, K.C.;
Reuron 7, 535-545, 1991
A;Title: Molecular cloning and expression of a novel adhesion molecule, SC1.
A;Reference number: JH0506; MUID:92030150
A;Accession: JH0506; MUID:92030150
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                           В
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Molecule type: mRNA
A; Residues: 1-588 < TAN>
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A;Title: Cloning and sequence analysis of human butyrophilin reveals a potential receptor A;Reference number: S70587; MUID:96201696
A;Accession: S70587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Accession: PS0270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Experimental source: embryo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross-references: GB:S63276; NID:g238000; PIDN:AAB20170.1; PID:g238001
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A; Residues: 1-526 <TAY>
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Best Local Similarity
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Best Local
                         199 NRSTGLFTMTSSLQYMPTKEDANAKFTCIVTY 230
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        155 QENGEICLECTSVGWYPEPQVQWRTSKGEKFP--STSESRNPDEEGLFTVAASVIIRDTS 212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 101
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                                                                                                                                                                                                                                      59 PEYKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPT 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          89
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                                                                  DPETELYAVSSKLDFNMT---TNHSFMCLIKY 194
                                                                                                           PSQPEILHQADF-LETEKLKMLGECVVRDSYPEGNVTWYKNGRVLQPVEEVVVINLRKVE
                                                                                                                                                  PS-----ISDFEIPTSNIRRI-ICSTSGGFPEPHLSWLENG-----EELNAINTTVSQ 165
                                                                                                                                                                                             PDYKDR--LSLSENYTLSIKNARISDEKRFVCMLVT-EDDVSEEPTVVKV---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TKNVSCYIQ 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PTSNIRRIICSTSGGFPEPHLSW-LENGEELNAINTTVSQDPETE-LYAVSSKLDFNMTT 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GIAKGRVALRIRGVRVSDDGEYTCF---FREDGSYEEAL--VHLKVAALGSDPHIS-MQV 154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VKEVATLSC--GHNVSVEELAQTRIYWQKEKKMVLTMMSG---DMNIWPEYKNRTIF--- 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -DITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPSISDFEI 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VGEDAELPCRLSPNASAEHL-ELRWFRKKVSPAVLVHRDGREQEAEQMPEYRGRATLVQD 100
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25.7%;
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                                                                                                                                                                                                                                                                                                         Score 122.5; DB Pred. No. 0.036;
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                                                                                                                                                                                                                                                                                  Mismatches
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                                                                                                                                                                                                                                                                                                                             DB 2;
                                                                                                                                                                                                                                                                                    54;
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                                                                                                                                                                                                                                                                                    Indels
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A; Gene:
A; Map po
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SHP substrate-1 protein, 509 - mouse
C;Species: Mus musculus (house mouse)
C;Date: 16-Apr-1997 #sequence_revision 09-May-1997 #text_change 20-Jun-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    surface glycoprotein BEN precursor - chicken
C;Species: Gallus gallus (chicken)
C;Date: 27-Jun-1994 #sequence_revision 27-Jun-1994 #text_change 21-Jul-2000
C;Accession: A45254; 19202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Molecule type: mRNA
A; Residues: 1-509 < YAM>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Accession: JC5288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Contents: Brain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Reference number:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Title: Mouse and human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Biochem.
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A; Residues: 1-588 < POU>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C; Keywords: glycoprotein
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position: 2
                                                  105
134 EIQSGGGTEVYVLAKPSPPEVSGPADRGIPDQKV-NFTCKSHGFSPRNITLKWFKDGQEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               166 DPETELYAVSSKLDFNMT---TNHSFMCLIKY 194
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                                                                                                                                                                                                                                                                                                                    Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          59 PEYKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPT 118
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         T.; Matozaki, T.; Amano, K.; Matsuda, Y.; Takahashi, N.; Ochi, F.; Fujioka, Biophys. Res. Commun. 231, 61-67, 1997

Mouse and human SHS-1: Molecular cloning of cDNAs and chromosomal localiza
                                                                                                                                        TMMSGDMNIWPEYKNRTIFDIT--NNL--SIVILALRPSDEGTYECVVLKYEKDAFKREH 104
                                             L-----AEVTLSVKADFPTPS-ISDFEIPTSNIRRIICSTSGGFPEP-HLSWLENGEEL 156
                                                                                             YSFTGEH---FPRVTN--VSDATKRNNMDFSIRISNVTPEDAGTYYCV--KFQKGPSEPDT 133
                                                                                                                                                                                          SCFCTGVTGKELKVTQPEKSVSVAAGDSTVLNC---TLTSLLPVGPIKWYRGVGQSRLLI 79
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CD86_MOUSE
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ALIGNMENTS

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X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS) OF 35-234. X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS) OF 35-234. MEDLINE-20125021; PubMed=10661405; Ikemizu S., Gilbert R.J., Fennelly J.A., Collins A.V., Harlos K., Jones E.Y., Stuart D.I., Davis S.J.; Jones E.Y., Stuart D.I., Davis S.J.; "Structure and dimerization of a soluble form of B7-1."; "Structure and dimerization of a soluble form of B7-1."; Immunity 12:51-60(2000). IMPOLYMENTIAL FOR T LYMPHOCYTES ACTIVATION. T CELL PROLIFERATION AND CYTOKINE	CHARACTERIZATION. MEDLINE=95088403; PubMed=7527824; MEDLINE=95088403; PubMed=7527824; Lanier L.L., O'Fallon S., Somoza C., Phillips J.H., Linsley P.S., Okumura K., Ito D., Azuma M.; "CD80 (B7) and CD86 (B70) provide similar costimulatory signals for T cell proliferation, cytokine production, and generation of CTL."; J. Immunol. 154:97-105(1995).	SEQUENCE OF 35-38. SEQUENCE OF 35-38. SEQUENCE 91341422; PubMed=1714935; MEDLINE=91341422; PubMed=1714935; Freeman G.J., Gray G.S., Glimmi C.D., Lombard D.B., Zhou LJ., White M., Fingeroth J.D., Gribben J.G., Nadler L.M.; "Structure, expression, and T cell costimulatory activity of the murine homologue of the human B lymphocyte activation antigen B7."; J. Exp. Med. 174:625-631(1991).	SEQUENCE FROM N.A. SEQUENCE FROM N.A. MEDLINE=92307753; PubMed=1377173; Selvakumar A., Mohanraj B.K., Eddy R.L., Shows T.B., White P.C., Dupont B.; "Genomic organization and chromosomal location of the human gene encoding the B-lymphocyte activation antigen B7."; Immnogenetics 36:175-181(1992).	SEQUENCE FROM N.A. SEQUENCE FROM N.A. TISSUE-Lymphoid; MEDLINE-90010147; PubMed-2794510; Freeman G.J., Freedman A.S., Segil J.M., Lee G., Whitman J.F., Nadler L.M.; "B7, a new member of the Ig superfamily with unique expression on activated and neoplastic B cells."; J. Immunol. 143:2714-2722(1989).	DLHUMAN CD80_HUMAN CD80_HUMAN CD80_HUMAN CD80_HUMAN CD80_HUMAN CD80_HUMAN CD80_HUMAN STANDARD; PRT; 288 AA. P33681; 01-FEB-1994 (Rel. 28, Created) 01-FEB-1994 (Rel. 28, Last sequence update) 01-MAR-2002 (Rel. 41, Last annotation update) Tlymphocyte activation antigen CD80 precursor (Activation B7-1 antigen) (CTLA-4 counter-receptor B7.1) (B7) (BB1). CD80 OR CD28LG1 OR CD28LG OR LAB7. Homo sapiens (Human). Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. NCBL_TaxID=9606;

BUTY_HUMAN
C166_CHICK
BUTY_MOUSE
NCA1_XENLA
NCA2_HUMAN
NCA1_HUMAN
TCB_FLV
MU18_HUMAN
NCA1_BOVIN
BUTY_BOVIN
LAR_DROME
CXAR_MOUSE
AMAL_DROME
NCA1_RAT
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JAM2_HUMAN NEO1_CHICK RAGE_MOUSE

A33_HUMAN
NCA1_CHICK
NCA2_XENLA
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5 homo sapien
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Receptor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Immunoglobulin domain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EN
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-1- SIMILARITY: CONTAINS 1 IMMUNOGLOBULIN-LIKE V-TYPE [
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AND DENDRITIC CELLS.
-I- SIMILARITY: BELONGS TO THE IMMUNOGLOBULIN SUPERFAMILY
                181
                                               147
                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   the European Bioinformatics Institute.
                                                                                                           87
                                                                                                                                          61
                                                                                                                                                                         27
                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRODUCTION IS INDUCED BY THE BINDING OF CD28 OR CTLA-4 TO RECEPTOR.
SUBCELLULAR LOCATION: Type I membrane protein.
TISSUE SPECIFICITY: EXPRESSED ON ACTIVATED B CELLS, MACRO!
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DATABASE: NAME-PROW; NOTE-CD guide CD80 entry; MWW-"http://www.ncbi.nlm.nih.gov/prow/cd/cd80.htm".
                                        YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
                                                                                                                                                                                      GISHFCSGVIHVTKEVKEVATISCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
             NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN
                                                                                                      YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS
                                                                                                                                                                  GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          M83077; AAA58390.1; M83077; AAA58390.1; M83072; AAA58390.1; M83073; AAA58390.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   112203;
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216;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               M83074; AAA58390.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 pean Bioinformatics Institute. There are no rest non-profit institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3D-structure.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-JAN-01.
                                                                                                                                                                                                                                                                                                                288 AA;
                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A45803
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288
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EXTRACELLULAR (POTENTIAL).
POTENTIAL.
CYTOPLASMIC (POTENTIAL).
IG-LIKE V-TYPE DOMAIN.
IG-LIKE C2-TYPE DOMAIN.
                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                           N-LINKED
                                                                                                                                                                                                                                                                                                                                                                       N-LINKED
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                                                                                                                                                                                                                                                                                                                                                          N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                     N-LINKED
                                                                                                                                                                                                                                Score 1149; DB 1;
Pred. No. 3.5e-89;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                             BA453EE34528B1F4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Glycoprotein; Signal; Transmembrane;
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GGLCNAC...)

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GGLCNAC...)

GGLCNAC...)

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GGLCNAC...)

GGLCNAC...)
             216
                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                             Length 288;
                                                                                                                                                                                                                                                                                                                                                                                                 ) (POTENTIAL).
) (POTENTIAL).
) (POTENTIAL).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a collaboration - MBL outstation
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Qy 밁 Ş 밁 Ω

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Query Match Best Local Similarity Matches 133;

64.2%;

Score Pred.

Conservative

36;

Mismatches No. 738;

8.9e-55; DВ

Length 299; Indels

0; Gaps

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밁
207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242
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TAGE CONSTRUCTION OF THE FEBRUARY AND SOLD TO THE FEBRUARY AND SOLD TO THE FEBRUARY AND THE
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CD80_RABIT
                                CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NOV-1995
01-NOV-1995
01-MAR-2002
                                                                                                                                                         CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SMART; SM00409; IG; 1.
SMART; SM00410; IG_like;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CD80_RABIT
P42070;
                                                                                   CARBOHYD
                                                                                                       CARBOHYD
                                                                                                                                  CARBOHYD
                                                                                                                                                                                  CARBOHYD
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                                                                                                                                                                                                                                                                                                                                                   DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                       Receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; D49843; BAA08643.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                              Immunoglobulin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Immunogenetics 42:217-220(1995).
-i- FUNCTION: INVOLVED IN THE COSTIMULATORY SIGNAL ESSENTIAL FOR LYMPHOCYTES ACTIVATION. T CELL PROLIFERATION AND CYTOKINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                costimulatory molecules.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=95369849;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN=B/J X CHBB:HM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Ve
Mammalia; Eutheria; Lagomorpha; Leporidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            antigen).
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01-MAR-2002 (Rel. 41, Last annotation update)
T lymphocyte activation antigen CD80 precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Cloning and sequencing of the rabbit gene encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9986;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUBCELLULAR LOCATION: Type I membrane protein.
SIMILARITY: BELONGS TO THE IMMUNOGLOBULIN SUPERFAMILY.
SIMILARITY: CONTAINS 1 IMMUNOGLOBULIN-LIKE C2-TYPE DOMAIN.
SIMILARITY: CONTAINS 1 IMMUNOGLOBULIN-LIKE V-TYPE DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LYMPHOCYTES ACTIVATION. T CELL PROLIFERATION AND CYTOKINE PRODUCTION IS INDUCED BY THE BINDING OF CD28 OR CTLA-4 TO THIS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IPR003600;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                              domain;
STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ig.MHC.
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                                                                                                                                                                                                                                                                                                                                                                                                                                      T-cell; Glycoprotein; Signal; Transmembrane;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Н
       MW;
  POTENTIAL.

N-LINKED (GLCNAC...) (
                                                                                                                                                                                                                        IG-LIKE V-TYPE DOMAIN. IG-LIKE C2-TYPE DOMAIN. POTENTIAL.
                                                                                                                                                                                                                                                                                              CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                              EXTRACELLULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                  LYMPHOCYTE ACTIVATION ANTIGEN CD80
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                                                                                                                        (POTENTIAL).
(POTENTIAL).
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                              (POTENTIAL)
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RESULT 3
CD80_MOUSE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-FEB-1994 (Rel. 28, Created)
01-FEB-1994 (Rel. 28, Last sequence update)
01-MAR-2002 (Rel. 41, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-91341422; PubMed-1714935; Gray G.S., Freeman G.J., Gimmi C.D., Lombard D.B., Zhou L.J., White M., Fingeroth J.D., Gribben J.G., Nadler L.M.; White M., Fingeroth J.D., Gribben J.G., Nadler L.M.; The structure, expression, and T cell costimulatory activity of the murine homologue of the human B lymphocyte activation antigen B7 J. Exp. Med. 174:625-631(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                antigen) (B7).
CD80 OR B7.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q00609;
01-FEB-1994
                         the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed. entities requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                            This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CD80_MOUSE
                                                                                                                                                                                                                                                                                                                                    Immunogenetics 38:292-295(1993).

-i- FUNCTION: INVOLVED IN THE COSTIMULATORY SIGNAL ESSENTIAL FOR LYMPHOCYTES ACTIVATION. T CELL PROLIFERATION AND CYTOKINE PRODUCTION IS INDUCED BY THE BINDING OF CD28 OR CTLA-4 TO THI
                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=93307789; PubMed=7686531;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE-B-cell;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                      "Genomic organization
                                                                                                                                                                                                                                                                                                                                                                                                                                         Selvakumar A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rissum-B-cell;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                lymphocyte activation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29
                                                                                                                                                         ACTIVATION. PROTEIN WAS DETECTED AT CELL SURFACE AT 24 HOURS AND IT'S EXPRESSION WAS MAXIMAL FROM 48 TO 72 HOURS POST-ACTIVATION. SIMILARITY: BELONGS TO THE IMMUNOGLOBULIN SUPERFAMILY. SIMILARITY: CONTAINS 1 IMMUNOGLOBULIN-LIKE C2-TYPE DOMAIN. SIMILARITY: CONTAINS 1 IMMUNOGLOBULIN-LIKE V-TYPE DOMAIN.
                                                                                                                                                                                                                                                                                        SUBCELLULAR LOCATION: Type I membrane protein. TISSUE SPECIFICITY: EXPRESSED ON ACTIVATED B CELLS,
                                                                                                                                                                                                                                         DEVELOPMENTAL STAGE: EXPRESSED BETWEEN 4 AND 12 HOURS
                                                                                                                                                                                                                                                          MALIGNANCIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TNHSFMCLIKYGHLRVNQTFNWNTTKQE
                                                                                                                                                                                                                                                                           INTERFERON STIMULATED MONOCYTES AND NONCIRCULATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDFNMT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HFSSGISQVTKSVKEMAALSCDYNISIDELARMRIYWQKDQQMVLSIISGQVEVWPEYKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPEYKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RTFPDIINNLSLMILALRLSDKGTYTCVVQKNENGSFRREHLTSVTLSIRADFPVPSITD
                                                                                                                          SWISS-PROT entry is copyright. It is produced through a collaboration
X60958; CAA43291.1;
                                                                                                            the Swiss Institute of Bioinformatics
                                                                                                                                                                                                                                                                                                                                                                                                                      White P.C., Dupont E ization of the mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  antigen CD80
                                                                                                                                                                                                                                                                                                                                                                                                                                         Dupont B.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Craniata; Vertebrata; Sciurognathi; Muridae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                211
                                                                                                                                                                                                                                                                                                                                                                                                                        B-lymphocyte activation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    precursor (Activation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    306
                                             (See http://www.isb-sib.ch/announce/
                                                                            There are no restrictions ng as its content is in
                                                             Usage
                                                                                                            and the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Euteleostomi;
; Murinae; Mus
                                                              ьy
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                                                                                                                                                                                                                                                                                             GAMMA
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                                                                                                              EMBL outstation
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                                                                                                                                                                                                                                                                                               RESULT 4
CD86_HUMAN
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Best Local S
Matches 104
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                                                                                                                                           CD86_HUMAN STANDARD; PRT; 329 AA.
P42081; Q13655;
01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-MAR-2002 (Rel. 41, Last annotation update)
T lymphocyte activation antigen CD86 precursor (Activation antigen) (CTLA-4 counter-receptor B7.2) (B70) (FUN-1) (BU63 CD86 OR CD28LG2.
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DOMAIN
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                                                                                         Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CARBOHYD
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Interpro; IPR003006; Ig_MHC
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Freeman G.J.,
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                   SEQUENCE FROM N.A.
MEDLINE=94053735; PubMed=7694363;
                                                                         NCBI_TaxID=9606;
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MGI:101775; Cd80.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; L12589; AAA37240.1; 

; L12585; AAA37240.1; 

; L12586; AAA37240.1; 

; L12587; AAA37240.1; 

; L12588; AAA37240.1; 

; L12588; AAA37240.1; 

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDFNMTTNHSFMCL 191
                                                                                                                                                                                                                                                                                                                                                                         IKYGDAHVSEDFTWEKPPEDP-PDS
                                                                                                                                                                                                                                                                                                                                                                                                          IKYGHLRVNQTFNWNTTKQEHFPDN 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                 KRITCFASGGFPKPRFSWLENGRELPGINTTISQDPESELYTISSQLDFNTTRNHTIKCL
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SM00410; IG_like; 1
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)9; IG; 1
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J.G.,
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 Boussiotis
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Pred. No. 5.9e-40;
1; Mismatches 58
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EXTRACELLULAR POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                T LYMPHOCYTE ACTIVATION ANTIGEN CD80
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IG-HINGE LIKE (POTENTIAL).
                                                                                           Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Glycoprotein; Signal; Transmembrane;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1DBADE0931B84C62
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 306;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CRC64;
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                                                                                                                                                                     (BU63)
                                                                                                                                                                                        B7-2
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Gribben

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MEDLINE-94348060; PubMed=7520767;
Engel P., Gribben J.G., Freeman G.J., Zhou L.J.,
Nadler L.M., Wakasa H., Tedder T.F.;
"The B7-2 (B70) costimulatory molecule expressed
activated B lymphocytes is the CD86 differentiati
Blood 84:1402-1407(1994).
InterPro; IPR003006; Ig_MHC.
InterPro; IPR003596; Ig_v.
IMART; SM00406; IGv; 1.
PROSITE; PS00290; IG_MHC; FALSE_NEG.
Immunoglobulin domain; T_cell; Glycoprotein; Signal; Transmembrane;
                                                                                                                                                                                                                                                                                  This SWISS-PROY entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Okumura K., Ito D., Azuma M.;
"CD80 (B7) and CD86 (B70) provide similar cell proliferation, cytokine production, J. Immunol. 154:97-105(1995).
                                                                                                                                                                                                                                           or send an email t
                                                                                                                                                                                                                                                                        modified and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Genomic organization of the gene coding for the costimulatory human B-lymphocyte antigen B7-2 (CD86).";
Immunogenetics 42:85-89(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lanier L.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=95088403;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CHARACTERIZATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Jellis C.L., Wang S.S., Green N.R., Gray G.S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Restivo V.A. Jr., Lombard L.A., Gray G.S., Nadler L.M.; "Cloning of B7-2: a CTLA-4 counter-receptor that costimulates human cell proliferation.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IDENTIFICATION AS CD86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lanier L.L., Somoza C.;
"B70 antigen is a second ligand
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Azuma M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=95331831;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nature 366:76-79(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE-94050123;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE OF 7-329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Science
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        rissue=Foreskin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 7-329
                                                                                                                                                                                                                                                                                                                                                                            SIMILARITY: CONTAINS 1 IMMUNOGLOBULIN-LIKE C2-TYPE DOMAIN SIMILARITY: CONTAINS 1 IMMUNOGLOBULIN-LIKE V-TYPE DOMAIN. DATABASE: NAME-PROW; NOTE-CD guide CD86 entry;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FUNCTION: RECEPTOR INVOLVED IN THE COSTIMULATORY SIGNAL ESSENTIAL FOR T LYMPHOCYTE PROLIFERATION AND INTERLEUKIN 2 PRODUCTION, BY BINDING CD28 OR CTLA-4. MAY PLAY A CRITICAL ROLE IN THE EARLY EVENTS OF T CELL ACTIVATION AND COSTIMULATION OF NAIVE T CELLS, SUCH AS DECIDING BETWEEN IMMUNITY AND ANERGY THAT IS MADE BY T CELLS WITHIN 24 HOURS AFTER ACTIVATION.

SUBCELLULAR LOCATION: Type I membrane protein.
                                                                                                                                                                                                                                                                                                                                                              WWW="http://www.ncbi.nlm.nih.gov/prow/cd/cd86.htm".
                                                                                                                                                                                                                                                                                                                                                                                                                               SIMILARITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE SPECIFICITY: EXPRESSED BY ACTIVATED
                                                                                                                                                                                                                                                                                                                                                                                                                                             MONOCYTES
                                                                                                     601020;
                                                                                                                  U17719;
U17721;
                                                                                                                                                 U17717;
U17718;
                                                                                                                                                                                U04343;
U17722;
                                                                                                                                                                                                                                          an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                       non-profit institutions as long and this statement is not removed.
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                                                                                                                                                                            AAA58389.1; -.
; AAB03814.1; -.
; AAA86473.1; -.
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                                                                                                                    AAA86473.1;
                                                                                                                             AAA86473.1; JOINED AAA86473.1; JOINED AAA86473.1; JOINED AAA86473.1; JOINED
                                                                                                                                                                                                                                                                                                                                                                                                                             BELONGS TO THE IMMUNOGLOBULIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PubMed=7541777;
S.S., Rennert P.,
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                                                                                                                                                                                                                                                        license agreement
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                                                                                                                  JOINED
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                                                                                                                                                                                                                                                        (See http://www.isb-sib.ch/announce/
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             Yoshinaga S.K., Zhang M., Pistillo J., Horan T., Khare S.D., Miner Sonnenberg M., Boone T., Brankow D., Dai T., Delaney J., Han H., Hui A., Kohno T., Manoukian R., Whoriskey J.S., Coccia M.A.; "Characterization of a new human B7-related protein: B7RP-1 is the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CARBOHYD
CONFLICT
SEQUENCE
                                                                                                    SEQUENCE FROM N.A. (ISOFORM 1), AND TISSUE-Peripheral blood lymphocytes; MEDLINE-20465019; PubMed-11007762;
                                                                                                                                                                                                                                           TISSUE-Denution Pubmed-1
MEDLINE-20477846; Pubmed-1
7hn G., Chapoval
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DISULFID
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                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens (Human)
                                                                                                                                                                                                                                    "Costimulation of
                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                               Mammalia; Eutheria;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NITENVYINLTCSSIHGYPEPKKMSVL-----LRTKNSTIEYDGIMQKSQDNVTELYDVS
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co-stimulatory protein
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by B7-H2,
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Pred. No. 3
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IG-LIKE V-TYPE DOMAIN.
IG-LIKE C2-TYPE DOMAIN.
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Catarrhini;
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a B7-like molecule
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(B7-H2)
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ICOS. ACTS AS A COSTIMULATORY SIGNAL FOR T-CELL SURFACE RECEPTOR ICOS. ACTS AS A COSTIMULATORY SIGNAL FOR T-CELL PROLIFERATION AND CYTOKINE SECRETION; INDUCES ALSO B-CELL, PROLIFERATION AND DIFFERENTIATION INTO PLASMA CELLS. COULD PLAY AN IMPORTANT ROLE IN MEDIATING LOCAL TISSUE RESPONSES TO INFLAMMATORY CONDITIONS, AS WELL AS IN MODULATING THE SECONDARY IMMUNE RESPONSE BY COSTIMULATING MEMORY T-CELL FUNCTION (BY SIMILARITY).

-!- STMULATING MEMORY T-CELL FUNCTION (BY SIMILARITY).
-!- SUBCELLULAR LOCATION: Type I membrane protein (By similarity).
-!- ALTERNATIVE PRODUCTS: AT LEAST 2 ISOFORMS; 1 (SHOWN HERE) AND 2;
ARE PRODUCED BY ALTERNATIVE SPLICING.
-!- TISSUE SPECIFICITY: ISOFORM 1 IS WIDELY EXPRESSED (BRAIN, HEART, KIDNEY, LIVER, LUNG, PANCREAS, PLACENTA, SKELETAL MUSCLE, BONE MARROW, COLON, OVARY, PROSTATE, TESTIS, LYMPH NODES, LEUKOCYTES, SPLEEN, THYMUS AND TONSIL), WHILE ISOFORM 2 IS DETECTED ONLY IN LYMPH NODES, LEUKOCYTES AND SPLEEN.
-!- INDUCTION: CONSTITUTIVE EXPRESSION IS FURTHER ENHANCED BY TREATMENT WITH THY-ALPHA IN PERIPHERAL BLOOD B-CELLS AND MONOCYTES, WHILE IT IS DECREASED IN DENDRITIC CELLS.
-!- SIMILARITY: BELONGS TO THE IMMUNOCLOBULIN SUPERFAMILY. BTN/MOG
                                                                                                                                                                                                           EMBL;
                                                                                                                                                                                                                                                                                                                     the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for con
                                       SMART;
                                                                          Pfam; PF00047; ig; 3.
                                                                                                                                                       EMBL; AX1005
MIM; 605717;
                                                                                                                                                                                            EMBL;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Prediction of the coding sequences of unidentified human genes. X. The complete sequences of 100 new cDNA clones from brain which can code for large proteins in vitro.";
DNA Res. 5:169-176(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=20126021; PubMed=10657606;
Ling V., Wu P.W., Finnerty H.F., Bean K
Leonard J.P., Hunter S.E., Zollner R.,
Jacobs K.A., Collins M.;
                                                                                            InterPro; IPR003006; InterPro; IPR003600;
                                                                                                                                       InterPro;
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   [mmunoglobulin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             binds to ICOS receptor.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Identification of GL50, a novel B7-like protein that functionally
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                                                                                                                                                                                                                                                                                                                                                                                                                                 SIMILARITY: CONTAINS 1 IMMUNOGLOBULIN-LIKE V-TYPE DOMAIN. SIMILARITY: CONTAINS 1 IMMUNOGLOBULIN-LIKE C2-TYPE DOMAIN. CAUTION: Ref. 4 sequence differs from that shown in position 300 onward for an unknown reason.
                                                                                                                                                                                                                                                                                                                                                         European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUBFAMILY.
                                                                                                                                                                                                                                                                                                                                                                        SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                  AF199028; AAF34739.1; -. AF289028; AAG01176.1; -. AF216749; AAK16241.1; -. AB014553; BAA31628.1; AIT_SEQ. AX102595; CAC36465.1; -.
                       activation;
                                   SM00410; IG; 1.
SM00410; IG_like; 1.
                                                                                                                                                                                                                                                                                  an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                    requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FROM N.A. (ISOFORM 2).
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                                                                                                                                 IPR003599;
   domain;
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Finnerty H.F., Bean K.M.,
Immune response; Glycoprotein;
ain; Signal; Transmembrane; Mul
                                                                                          ; Ig.
; Ig_MHC.
; Ig_like.
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Thomas J.L., Miyashiro J.S.,
Multigene family;
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Best Local S
Matches 57
                                                                                                                                                                                                                                                                                                                                                                                                                               _MOUSE
                                                                                                                                Wang S., Gray G.S., Nadler L.M., Sharpe A.H.;
"Murine B7-2, an alternative CTLA4 counter-receptor that costimulates
T cell proliferation and interleukin 2 production.";
J. Exp. Med. 178:2185-2192(1993).
                                                                                                                                                                                                                                                                                                                                                                                 CD86_MOUSE ST/
P42082;
01-NOV-1995 (Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CARBOHYD
VARSPLIC
SEQUENCE
                                    MEDLINE=96094437; PubMed=7499829; Borriello F., Oliveros J., Freeman G.J "Differential expression of alternate J. Immunol. 155:5490-5497(1995).
                                                                                                                                                                                                                                                                                                                           01-NOV-1995 (Rel. 32, Last sequence update)
01-MAR-2002 (Rel. 41, Last annotation update)
T lymphocyte activation antigen CD86 precursor (Activation B7-2 antigen) (Early T cell costimulatory molecule-1) (ETC-1).
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SEQUENCE OF 7-309
MEDLINE=94230971;
                                                                                                                                                                                       Freeman G.J., Borriello F., Hodes R.J., Reiser H., (
Ng J.W., Kim J., Goldberg J.M., Hathcock K., Laszlo
                                                                                                                                                                                                      MEDLINE=94065585; PubMed=7504059;
Freeman G.J., Borriello F., Hodes
                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                    Mus musculus (Mouse).
                                                                                                           SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            YAVSSKLDFNMTTNHSFMCLIKYGHLRVNQTFNWNT 207
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VVSAPHSPSQDELTFTCTSINGYPRPNVYWINKTD----NSLLDQALQNDTVFLNMRGL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RTIFD----ITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTP 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KEVRAMVGSDVELSCACPEGSRFDLNDVYVYWQTSESKTVVTYHIPQNSSLENVDSRYRN
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PubMed=7513726
          FROM N.A
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26.4%;
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GHV -> ESWNLLLLLS (IN ISOFORM 2).
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Pred. No. 1.7e-06;
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                                                 G.J., Nadler L.M., ate mB7-2 transcrip
                                                                                                                                                                                                                                                                                                                                                                                                               309
                                               transcripts
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 302;
                                                                                                                                                                                       Gribben
o G., Lom
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                                                         Sharpe A.
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Best Loc
Matches
                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; L25606; AAA79770.1; --
EMBL; U39456; AAC52334.1; J-
EMBL; U39461; AAC52334.1; J-
EMBL; U39461; AAC52334.1; J-
EMBL; U39462; AAC52334.1; J-
EMBL; U39463; AAC52334.1; J-
EMBL; U39464; AAC52334.1; J-
EMBL; U39465; AAC52334.1; J-
EMBL; U39466; AAC52334.1; J-
EMBL; U39466; AAC52336.1; J-
EMBL; U39461; AAC52336.1; J-
EMBL; U39462; AAC52336.1; J-
EMBL; U39463; AAC52336.1; J-
EMBL; U39464; AAC52336.1; J-
EMBL; U39465; AAC52336.1; J-
EMBL; U39466; AAC52336; J-
E
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"Molecular cloning and expression of early T cell costimulatory
molecule-1 and its characterization as B7-2 molecule.";

J. Immunol. 152:4939-4936(1994).

-I- FUNCTION: RECEPTOR INVOLVED IN THE COSTIMULATORY SIGNAL ESSENTIAL
FOR T LYMPHOCYTE PROLIFERATION AND INTERLEUKIN 2.

BINDING CD28 OR CTLA-4. MAY PLAY A CRITICAL ROLE IN THE EARLY
EVENTS OF T CELL ACTIVATION AND COSTIMULATION OF NAIVE T CELLS,
SUCH AS DECIDING BETWEEN IMMUNITY AND ANERGY THAT IS MADE BY T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an entitles requires a light of the statement is not removed.
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      Local Similarity
nes 52; Conserv
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CELLS WITHIN 24 HOURS AFTER ACTIVATION.

SUBCELLULAR LOCATION: Type I membrane protein.

SUBCELLULAR LOCATION: Type I membrane protein.

TISSUE SPECIFICITY: EXPRESSED ON ACTIVATED B CELLS.

SIMILARITY: BELONGS TO THE IMMUNOGLOBULIN SUPERFAMILY.

SIMILARITY: CONTAINS 1 IMMUNOGLOBULIN-LIKE C2-TYPE DOMAIN.

SIMILARITY: CONTAINS 1 IMMUNOGLOBULIN-LIKE V-TYPE DOMAIN.

SIMILARITY: CONTAINS 1 IMMUNOGLOBULIN-LIKE V-TYPE DOMAIN.
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IPR003596;
13.2%; Score 152; DB 1; ilarity 26.1%; Pred. No. 9.9e-06; Conservative 43; Mismatches 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAC52334.1. JOINED.
AAC52336.1. ALT_INIT.
AAC52336.1. JOINED.
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AAC52334.1; JOINED.
AAC52334.1; JOINED.
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AAC52334.1; -.
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nain; T-cell; Glycoprotein; Signal; Transmembrane;
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           78;
                                                  Length 309;
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           Indels
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(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
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           26;
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   REPRESENTATION OF THE PROPERTY OF THE PROPERTY
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16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2002 (Rel. 41, Last annotation update)
10-MAR-2002 (Rel. 41, Last annotation update)
1COS ligand precursor (B7 homolog 2) (B7-H2) (B7-like protein G150)
(B7-related protein-1) (B7RP-1) (LICOS).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Yoshinaga S.K., Whoriskey J.S., Khare S.D., Sarmtento U., Guo J., Horan T., Shih G., Zhang M., Coccia M.A., Kohno T., Tafuri-Bladt A., Brankow D., Campbell P., Chang D., Chiu L., Dai T., Duncan G., Elliott G.S., Hui A., McCabe S.M., Scully S., Shahinian A., Shaklee C.L., Van G., Mak T.W., Senaldi G.; "T-cell co-stimulation through B7RP-1 and ICOS."; Nature 402:827-832(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                 Leonard J.P., Hunter S.E., Zollner R., Jacobs K.A., Collins M., "Identification of GL50, a novel B7-lik binds to ICOS receptor.", J. Immunol. 164:1653-1657(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A. (ISOFORM 1).
STRAIN=C3H/HeJ; TISSUE-Fetal thymus;
MEDLINE=20126021; PubMed=10657606;
Ling V., Wu P.W., Finnerty H.F., Bea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=Lymphocytes; MEDLINE=20083495; PubMed=10617205;
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                                                                                         variants: lymphoid
molecules.";
                                                                                                                                                                                                                                           MEDLINE=Peripheral blood lymphocytes;
MEDLINE=21286479; PubMed=11390480;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Swallow M.M., Wallin J.J., Sha W.C.;
"B7h, a novel costimulatory homolog of B7.1 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=10090;
SEQUENCE FROM N.A. (ISOFORMS 1 AND 2)
                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. (ISOFORM 2).
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                                                                                                                                                     Differential expression of inducible costimulator-ligand splice
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -TTNHSFMCLIKYGHLRVN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TSNIR-RIICSTSGGFDEPHLSW---LENGEELNAINTTVSQDPETELYAVSSKLDFNM--
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                                                                                                                                                                                                                  Wu P.W.,
                                                               166:7300-7308(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
                                                                                                                                                                                                                  Miyashiro J.S., Marusic S., Finnerty H.F.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (ISOFORM 1), AND CHARACTERIZATION
                                                                                                                        regulation of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             200
                                                                                                                                                                                                                                                                                                                                                                                                                                 a novel B7-like protein that functionally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       H.F., Bean K.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
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Sciurognathi; Muridae;
                                                                                                                     mouse g150-b and human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Thomas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Spaulding V., Fous
as J.L., Miyashiro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B7.2, is induced by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Euteleostomi;
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                                                                                                                        g150
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             L.A.,
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Iding V., Dunussi-Joannopolulos K.;

"G150 molecules and uses therefor.";

Patent number WO121796, 29-MAR-2001.

-i- FUNCTION: LIGAND FOR THE T-CELL-SPECIFIC CELL SURFACE RECEPTOR

ICOS. ACTS AS A COSTIMULATORY SIGNAL FOR T-CELL PROLIFERATION AND

CYTOKINE SECRETION; INDUCES ALSO B-CELL PROLIFERATION AND

DIFFERENTIATION INTO PLASMA CELLS. COULD PLAY AN IMPORTANT ROLE IN

MEDIATING LOCAL TISSUE RESPONSES TO INFLAMMATORY CONDITIONS, AS
                              CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              the European Bioinformatics Institute. There are no rest
use by non-profit institutions as long as its content
modified and this statement is not removed. Usage by ar
                                                                                                                                                                                                                                                                                             B-cell activation; Immune response; Glycoprotein; Immunoglobulin domain; Signal; Transmembrane; Mul
                                                                                                                                                                                                                                                                                                                           SMART; SM00409; IG; 1.
SMART; SM00410; IG_like; 1.
                                                                                                                                                                                                                                                                                                                                                                        Interpro; IPR003599; Ig.
Interpro; IPR003006; Ig_MHC.
Interpro; IPR003600; Ig_like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                               CARBOHYD
                                                                            CARBOHYD
                                                                                              CARBOHYD
                                                                                                           DISULFID
                                                                                                                           DISULFID
                                                                                                                                                                                                                      TRANSMEM
                                                                                                                                                                                                                                                                                  Alternative
                                                                                                                                                                                                                                                                                                                                                             Pfam; PF00047; ig; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 entities requires a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ARE PRODUCED BY ALTERNATIVE SPLICING.

TISSUE SPECIFICITY: ISOFORM 1 HIGHEST EXPRESSION IN LYMPHOID TISSUES, SUCH AS SPLEEN (MOSTLY IN THE MARGINAL ZONE), LYMPH NOD!

(PARTICULARLY IN THE CORTEX AND IN BOTH PRIMARY AND SECONDARY POLLICLES), THYMUS (PREDOMINANTLY IN THE MEDULLA) AND PEYER'S PATCHES (MOSTLY IN THE FOLLICLES), LOWER LEVELS IN MANY NONLYMPHOID TISSUES, SUCH AS BRAIN, HEART, KIDNEY, LIVER, LUNG, SKELETAL MUSCLE AND TESTIS. PRESENT ON FRESHLY ISOLATED SPLENIC CELLS, T-CELLS, DENDRITIC CELLS AND MACROPHAGES. THE EXPRESSION ISOFORM 2 IS RESTRICTED TO HEART, SPLEEN AND KIDNEY.

DEVELOPMENTAL STAGE: DETECTED EARLY IN HEMOPOLESIS: IN THE LIVER A SAC AT 11.5 AND 12.5 DPC AND, TO A LESSER EXTENT, IN THE LIVER A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIMILARITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SUBCELLULAR LOCATION: Type I membrane protein. ALTERNATIVE PRODUCTS: AT LEAST 2 ISOFORMS; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WELL AS IN MODULATING THE SECONDARY IMMUNE RESPONSE BY CO-STIMULATING MEMORY T CELL FUNCTION. DURING PREGNANCY, MAY FUNCTION TO SKEW THE CYTOKINE OF MATERNAL T-CELLS TOWARD IMMINOPROPERTURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SUBFAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY: BELONGS TO THE IMMUNOGLOBULIN SUPERFAMILY. BTN/MOG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TH2 PHENOTYPE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    AX100591; (AX100593; (
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                                                                                                                                                                                                                                                                                                                                                                                                                                         AF394451;
e splicing.
47 329
47 277
278 299 329
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178 299 329
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62 138
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IMMUNOGLOBULIN-LIKE V-TYPE DOMAIN.
IMMUNOGLOBULIN-LIKE C2-TYPE DOMAIN.
                              N-LINKED
                                                                                                                                                                       CYTOPLASMIC (POTENTIAL). IG-LIKE V-TYPE DOMAIN. IG-LIKE C2-TYPE DOMAIN.
                                                                            N-LINKED
                                                                                                                                                                                                                    POTENTIAL
                                                                                                                                                                                                                                 EXTRACELLULAR (POTENTIAL)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CD86_RABIT
P42071;
01-NOV-1995
                                                                                                                                                                                                                                                                                   "Cloning and sequencing of the rabbit gene encoding T-cell costimulatory molecules.";
Immunogenetics 42:217-220(1995).
IF FÜNCTION: RECEPTOR INVOLVED IN THE COSTIMULATORY SIGNAL ESSENTIAL FOR T LYMPHOCYTE PROLIFERATION AND INTERLEUKIN 2 PRODUCTION, BY BINDING CD28 OR CTLA-4. MAY PLAY A CRITICAL ROLE IN THE EARLY EVENTS OF T CELL ACTIVATION AND COSTIMULATION OF NAIVE T CELLS, SICH AS DECIDING BETWEEN IMMUNITY AND ANERGY THAT IS MADE BY T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-NOV-1995 (Rel. 32, Last sequence update)
01-MAR-2002 (Rel. 41, Last annotation update)
B lymphocyte activation antigen CD86 precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  antigen).
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                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; 
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Oryctolagus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CD86
                            InterPro; IPR003006;
InterPro; IPR003596;
                                                            EMBL; D49842; BAA08642.1;
                                                                                       or send
                                                                                                                     modified and this statement is not removed.
                                                                                                                                                  the
                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=95369849; PubMed=7642234;
                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN=B/J X CHBB:HM;
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                                                                                                                                                                                                                                                                                                                                                                                                                 Sono
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      209 TALQNNTYYLNKLGLYDVISTLRLPWTSRGDVLCCVENVALHQNITSISQAESFTGNNTK
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8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 LSHFC--SGVIHVTKEVKEVATLSCGHNVSVE-----ELAQTRIYWQKEKKMV-----L
                                                                                                                                                                                                           CELLS WITHIN 24 HOURS AFTER ACTIVATION.
SUBCELLULAR LOCATION: Type I membrane protein.
SIMILARITY: BELONGS TO THE IMMUNOGLOBULIN SUPERFAMILY.
SIMILARITY: CONTAINS 1 IMMUNOGLOBULIN-LIKE C2-TYPE DOMAIN.
SIMILARITY: CONTAINS 1 IMMUNOGLOBULIN-LIKE V-TYPE DOMAIN.
                                                                                                                                  European Bioinformatics Institute. There are no restrictions by non-profit institutions as long as its content is in
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ILEEVVRLRVAANFSTPVISTSDSSNPGQE-RTYTCMSKNGYPEPNLYWI-NTTDNSLID
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               SM00406;
                                                                                     s requires a license agreement (See http://www.isb-sib.ch/announce/an email to license@isb-sib.ch).
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322 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cuniculus (Rabbit).
Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (Rel.
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               IGv;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Lagomorpha; Leporidae;
                       Ig_MHC.
Ig_v.
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27.1%;
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                                                                                                                     Usage
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PROSITE;

PS00290; IG_MHC;

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C166_MOUSE STAND...
C166_MOUSE STAND...
Q61490; O70136;
O1-NOV-1997 (Rel. 35, Created)
O1-NOV-1999 (Rel. 38, Last sequence update)
O1-MAR-2002 (Rel. 41, Last annotation update)
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CARBOHYD
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DOMAIN
                                                                                                                                        MEDLINE=97353242; PubMed=9209500;
Bowen M.A., Bajorath J., D'Egidio M., Whitney G.S., Palmer D.,
Kobarg J., Starling G.C., Siadak A.W., Aruffo A.;
"Characterization of mouse ALCAM (CD166): the CD6 binding domain
conserved in different homologs and mediates cross-species bindin
Eur. J. Immunol. 27:1469-1478(1997).
                                                                                                                                                                                                                                                                                                                                       Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOUSE
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DOMAIN
MEDLINE=94376084, PubMed=8089660;
Kanki J.P., Chang S., Kuwada J.Y.;
"The molecular cloning and characterization
DM-GRASP homologs in zebrafish and mouse.";
                                                                                  STRAIN-BALB/C; TISSUE-Brain;
                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
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                                                                                                     OF 227-583 FROM N.A.
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N-LINKED
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Pred. No. 9.
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Sciurognathi;
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thi; Muridae;
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9.8e-05;
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                      potential chick
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; Murinae; Mus
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CONFLICT
CONFLICT
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EMBL; L25274;
HSSP; Q13740;
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CARBOHYD
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DISULFID
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SMART; SM00410; IG_11ke;
PROSITE; PS00290; IG_MHC;
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InterPro; IPR003006; Ig_MHC.
InterPro; IPR003600; Ig_like.
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                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MGD; MGI:1313266; Alcam.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      entities requires a license agreement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  between
 194
                     167
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          THE NERVOUS SYSTEM.
SUBCCLLULAR LOCATION: Type I membrane protein.
SUBCLLULAR LOCATION: Type I membrane protein.
SIMILARITY: BELONGS TO THE IMMUNOGLOBULIN SUBERFAMILY.
SIMILARITY: CONTAINS 3 IMMUNOGLOBULIN-LIKE C2-TYPE DOMAINS.
SIMILARITY: CONTAINS 2 IMMUNOGLOBULIN-LIKE V-TYPE DOMAINS.
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NEURITE EXTENSION BY NEURONS VIA
INTERACTIONS, MAY PLAY A ROLE IN
ACTIVATED LEUKOCYTES, AS WELL AS
                                                                                                        PEYKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPT 118
PGTQLYTVTSSLEYKTTRSDIQMPFTCSVTY 224
                    PETELYAVSSKLDFNMTTNH---SFMCLIKY 194
                                          PSKPEIVNKAPFLETDQLKKLGDCISRDSYPDGNITWYRNGKVLQPVEGEVAILFKKEID
                                                                PSISDFE----IPTSNIRRI-ICSTSGGFPEPHLSWLENGEELNAINTTVS-----
                                                                                      PEYKDR--LSLSENYTLSIANAKISDEKRFVCMLVT-EDNVFEAPTLVKV--
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Signal
                                                                                                                                           Similarity
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                                                                                                                                 Conservative
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AAA37528.1; -.
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                                                                                                                                                                                                                                                                                                                                                      POTENTIAL.

CYTOPLASMIC (POTENTIAL).

IG-LIKE C2-TYPE DOMAIN 1.

IG-LIKE C2-TYPE DOMAIN 2.

IG-LIKE C2-TYPE DOMAIN 3.

POTENTIAL.
                                                                                                                                          Score 134.5;
Pred. No. 0.
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HETEROPHILIC AND HOMOPHI
THE BINDING OF T AND B C
IN INTERACTIONS BETWEEN
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                                                                                                                                                                                                          AAGIPA
                                                                                                                                           .00063;
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013740; 060892;
01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence up
01-MAR-2002 (Rel. 41, Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE-96420463; PubMed-8823162;
Skonier J.E., Bowen M.A., Emswiler J., Aruffo A., Bajorath J.;
"Recognition of diverse proteins by members of the immunoglobulin
superfamily: delineation of the receptor binding site in the human
CD6 ligand ALCAM.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Degen W.G., van Kempen L.C., Gijzen E.G., van Groningen J.J., van Kooyk Y., Bloemers H.P., Swart G.W.; "MEMD, a new cell adhesion molecule in metastasizing human melanoma cell lines, is identical to ALCAM (activated leukocyte cell adhesio molecule).":
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Cloning, mapping, and characterization adhesion molecule (ALCAM), a CD6 ligand J. Exp. Med. 181:2213-2220(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-95279947; PubMed-7760007;
Bowen M.A., Patel D.D., Li X., Modrell B., Malacko A.
Bowen M.A., Pesando J.M.,
Wang W.-C., Marquardt H., Neubauer M., Pesando J.M.,
Haynes B.F., Aruffo A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-MAR-2002 (Rel. 41, Last annotation update) CD166 antigen precursor (Activated leukocyte-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE OF 2-583 FROM N.A. MEDLINE=98161527; PubMed=9502422;
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Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bajorath J., Bowen M.A., Aruffo A.;
"Molecular model of the N-terminal receptor-binding domain human CD6 ligand ALCAM.";
Protein Sci. 4:1644-1647(1995).
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                        EMBL; L38608; AAB59499.1;
EMBL; Y10183; CAA71256.1;
PDB; 1KJC; 03-APR-96.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE-96060095;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3D-STRUCTURE MODELING
                                                                                                                                                                        entities requires a
                                                                                                                                                                                                modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                               THE NERVOUS SYSTEM.
SUBCELLULAR LOCATION: Type I membrane protein.
SUBCELLULAR LOCATION: Type I membrane protein.
SIMILARITY: BELONGS TO THE IMMUNOGLOBULIN SUPERFEAMILY.
SIMILARITY: CONTAINS 3 IMMUNOGLOBULIN-LIKE C2-TYPE DOMAINS.
SIMILARITY: CONTAINS 2 IMMUNOGLOBULIN-LIKE V-TYPE DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FUNCTION: CBLL ADHESION MOLECULE
NEURIE EXTENSION BY NEURONS VIA
INTERACTIONS. MAY PLAY A ROLE IN
ACTIVATED LEUKOCYTES, AS WELL AS
                                                                                                                                                                                                                                                         European
                                                                                                                                                                                                                                                                                                                                                                            WWW="http://www.ncbi.nlm.nih.gov/prow/cd/cd166.htm".
                                                                                                                                                                                                                                                                                                                                                                                                          DATABASE: NAME=PROW; NOTE=CD guide CD166 entry;
                                                                                                                                                                                                                                                                                 SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation -
      601662;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pathol. 152:805-813(1998).
                                                                                                                                                an
                                                                                                                                                                                                                           non-profit
                                                                                                                                             equires a license agreement (See http://www.isb-sib.ch/announce/email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (Human)
                                                                                                                                                                                                                              Bioinformatics Institute. The profit institutions as long
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Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cterization of CD6 ligand.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Craniata; Vo
Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (activated leukocyte cell adhesion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               THAT BINDS TO CD6. INVOLVED IN HETEROPHILIC AND HOMOPHILIC THE BINDING OF T AND B CELLS TO IN INTERACTIONS BETWEEN CELLS OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          583
                                                                                                                                                                                                                              There are no restrictions ing as its content is in
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CARBOHYD
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DOMAIN
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SMART; SM00410; IG_like; 2.
SMART; SM00410; IG_MHC; FALSE_NEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro; IPR003600; I. Pfam; PF00047; ig; 5. SMART; SM00409; IG; 2.
                                                                           21-JUL-1986
21-JUL-1986
01-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                            DISULFID DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cell adhesion; Immunoglobulin domain; Glycoprotein; Transmembrane; Repeat; Signal; 3D-structure; Polymorphism.
                                                                                                     BRF1_EBV 
P03228;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SIGNAL
                       Epstein-barr virus (strain B95-8) (Human herpesvirus Viruses; dsDNA viruses, no RNA stage; Herpesviridae; Gammaherpesvirinae; Lymphocryptovirus. NCBI_TaxID=10377;
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MEDLINE=84270667;
         SEQUENCE FROM N.A.
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                                                                   33 kDa early
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                                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                           PEYKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPT 118
                                                                                                                                                        PVTQLYTMTSTLEYKTTKADIQMPETCSVTY 224
                                                                                                                                                                                         PSKPEIVSKALFLETEQLKKLGDCISEDSYPDGNITWYRNGKVLHPLEGAVVIIFKKEMD 193
                                                                                                                                                                                                                            PEYKDR -- LNLSENYTLSISNARISDEKRFVCMLVT - EDNVFEAPTIVKV -- ---
                                                                                                                                                                  PETELYAVSSKLDFNMT---TNHSFMCLIKY 194
                                                                                                                                                                                                          PSISDFE----IPTSNIRRI-ICSTSGGFPEPHLSWLENGEELNAINTTV--
                                                                                                                                                                                                                                                                      Similarity
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IPR003006;
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(Rel.
(Rel.
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                                                                   protein
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                                                                                                               STANDARD;
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PubMed=6087149
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                                                                                                                                                                                                                                                                      11.6%;
                                                                           Last sequence up
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IG-LIKE V-TYPE DOMAIN 2.
IG-LIKE C2-TYPE DOMAIN 1.
IG-LIKE C2-TYPE DOMAIN 2.
IG-LIKE C2-TYPE DOMAIN 2.
IG-LIKE C2-TYPE DOMAIN 3.
POTENTIAL.
POTENTIAL.
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Pred. No. 0.00077;
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N -> S.
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N-LINKED
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CYTOPLASMIC (POTENTIAL).
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EXTRACELLULAR (POTENTIAL)
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E023FB3974A60284 CRC64;
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THE PROPERTY OF STREET OF 
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q13410;

Q1-NOV-1997 (Rel. 35, Created)

Q1-NOV-1997 (Rel. 35, Last sequence up

16-OCT-2001 (Rel. 40, Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                            Butyrophilin precursor (BT). BTN1A1 OR BTN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                    Biochim. Biophys. Acta 1306:1-4(1996).

1- FUNCTION: MAY FUNCTION IN THE SECRETION OF MILK-FAT DROPLETS.

MAY ACT AS A SPECIFIC MEMBRANE-ASSOCIATED RECEPTOR FOR THE

ASSOCIATION OF CYTOPLASMIC DROPLETS WITH THE APICAL PLASMA
                                                                                                                              Taylor M.R., Peterson J.A., Ceriani R.L., Couto J.R. "Cloning and sequence analysis of human butyrophilin potential receptor function.";
                                                                                                                                                                                                                                              TISSUE=Breast;
                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PIR; A03792; QQBE48.
PIR; S33058; S33058.
InterPro; IPR003600; Ig_like.
SMART; SM00410; IG_like; 1.
                                                                                                                                                                                                                 MEDLINE=96201696; PubMed=8611614;
                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BUTY_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Early protein; Oncogene. SEQUENCE 221 AA; 24471 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; V01555; CAA24809.1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBO J. 8:2897-2903(1989).
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Gibson T.J., Hatfull G., Hudson G.S., Satchwell S.C.,
Tuffnell P.S., Barrell B.G.;
"DNA sequence and expression of the B95-8 Epstein-Barı
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          113 -KADEPTPSISDFEIPTSNIRRIICSTSGGEPEPHLSWL 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nature 310:207-211(1984).
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MEMBRANE (BY SIMILARITY)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YKNRTIFDI---TNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEV---TLSV-- 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QAVTAFLGERVTLTS-----YWRRVSLGPEIEVSWFKLGPGEEQVLIGRMHHDV-IFIE 71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              43;
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                                                                                                                                                                                                                                                                                                                                                                                Chordata;
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27.0%;
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Pred. No. 0.
                                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CA5A24D1EA28758E CRC64;
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                                                                                                                                                           reveals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Epstein-Barr
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  44;
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RESULT 13
C166_CHICK
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Best Local
                                                            01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-MAR-2002 (Rel. 41, Last annotation update)
CD166 antigen precursor (SC1 glycoprotein) (B
GRASP protein) (JC7 protein).
Gallus gallus (Chicken).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TRANSMEM
DOMAIN
                                  Archosauria; Aves; Neognathae;
                                                   Eukaryota; Metazoa;
                                                                                                                                                 P42292;
                                                                                                                                                              C166_CHICK
           NCBI_TaxID=9031;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pfam; PF00047; ig; 1.
Pfam; PF00622; SPRY; 1.
SMART; SM00406; IGV; 1.
SMART; SM00449; SPRY; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Transmembrane; Glycoprotein; SIGNAL 1 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR00306; Ig_MHC.
InterPro; IPR00306; Ig_WHC.
InterPro; IPR003596; Ig_V.
InterPro; IPR003871; SPRY.
InterPro; IPR003877; SPRY_domain
'fam; PF00047. '...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; U39576; AAC50489.1; -. MIM; 601610; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed. entitles requires a license agreement (See
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                                                                                                                                                                                                                                                                                                                                                                       68
                                                                                                                                                                                                                                                                                                                                                                                             42 VGEDAELPCRLSPNASAEHL-ELRWFRKKVSPAVLVHRDGREQEAEQMPEYRGRATLVQD 100
                                                                                                                                                                                                                                                                                                                                                                                                                        16 VKEVATLSC--GHNVSVEELAQTRIYWQKEKKMVLTMMSG---DMNIWPEYKNRTIF---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SIMILARITY: CONTAINS 1 IMMUNOGLOBULIN-LIKE V-TYPE DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUBCELLULAR LOCATION: Type I membrane protein. SIMILARITY: BELONGS TO THE IMMUNOGLOBULIN SUPERFAMILY. BTN/MOG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SUBUNIT: SEEMS TO ASSOCIATE WITH XANTHINE DEHYDROGENASE/OXIDASE (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                             PTSNIRRIICSTSGGFPEPHLSW-LENGEELNAINTTVSQDPETE-LYAVSSKLDFNMTT 184
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                                                                                                                                                              STANDARD;
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                                               Chordata; Craniata; Vertebrata; Euteleostomi;
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27.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       license agreement (See http://www.isb-sib.ch/announce/
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CYTOCHASMIC (POTENTIAL).

N-LINKED (GLCNAC. . .) (POTENTIAL).

N-LINKED (GLCNAC. . .) (POTENTIAL).

M; E9ECAOCF8DAF94D5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 127; DB 1;
Pred. No. 0.0024;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Immunoglobulin domain; Signal.
BY SIMILARITY.
BUTYROPHILIN.
EXTRACELLULAR (POTENTIAL).
                                                                                                                                                              PRT;
                                    Galliformes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                             588
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                                                                                                                                                             A
                                                                                        (BEN
                                  Phasianidae; Phasianinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    84; Indels
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                                                                                        glycoprotein)
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"Association of BEN glycoprotein expression with climbing fiber axonogenesis in the avian cerebellum.";

J. Neurosci. 12:1548-1557(1992).

-i- FUNCTION: HOMOPHILIC ADHRESION MOLECULE ASSOCIATED WITH CLIMBI FIBER AXONOGENESIS. SUPPORTS NEURITE EXTENSION.

-i- SUBCELLULAR LOCATION: Type I membrane protein.

-i- TISSUE SPECIFICITY: EXPRESSED IN A RESTRICTED POPULATION OF A WITHIN THE SPINAL CORD IT IS LOCALIZED TO AXONS IN THE DORSAL FUNICULUS, MIDLINE FLOOR PLATE CELLS, AND MOTONEURONS. FOUND EPITHELIA, CENTRAL NERVOUS SYSTEM, AND HEMOPOLETIC CELLS. EAC DEVELOPING SYSTEM CARRIES DIFFERENTLY GLYCOSYLATED MOLECULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Neuron
[2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pourquie O., Corbel C., le Caer J.-P., Rossier J., "BEN, a surface glycoprotein of the immunoglobulin expressed in a variety of developing systems.", Proc. Natl. Acad. Sci. U.S.A. 89:5261-5265(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Burns F.R., von Kannen S., Chang S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tanaka H., Matsui T., Agata A., Tomura M., Kubota I., McFarland K.C., Kohr B., Lee A., Phillips H.S., Shelton D.L.; "Molecular cloning and expression of a novel adhesion molecule, SC1."; Neuron 7:535-545(1991).
                                                                                                                                                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=92211411; PubMed=1313497;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE-92302224;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A., AND SEQUENCE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         that supports neurite e Neuron 7:209-220(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=91337449; PubMed=1873027;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
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               DOMAIN
DOMAIN
                                                                                                                                                                            InterPro: IPR003599; Ig.
InterPro: IPR003006; Ig_MHC.
InterPro: IPR003600; Ig_like.
Pfam: PF00047; ig; 5.
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                                                                                                                                 PROSITE;
                                                                                                                                                                                                                                                                                                                               entities requires a
                                                                                                                                                                                                                                                                                                                                                             the European Bioinformatics Institute. These by non-profit institutions as long
                                             TRANSMEM
                                                           DOMAIN
                                                                           CHAIN
                                                                                                                                                                                                                                                                                     EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                 SIMILARITY: BELONGS TO THE IMMUNOGLOBULIN SUPERFAMILY. SIMILARITY: CONTAINS 3 IMMUNOGLOBULIN-LIKE C2-TYPE DOMAINS. SIMILARITY: CONTAINS 2 IMMUNOGLOBULIN-LIKE V-TYPE DOMAINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OF BEN.
DEVELOPMENTAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEVELOPMENT.
                                                                                                                      adhesion;
                                                                                                                                                                                                                                         S63276; AAB20170.1; -. M76678; AAA48602.1; -. X64301; CAA45579.1; -. Q13740; 1KJC.
                                                                                                               PROUVY; IG; 3.
SM00409; IG; 3.
, SM00410; IG_like; 2.
, SM00410; IG_MHC; FALSE_NEG.
- nen0290; IG_MHC; FALSE_NEG.
                                                                                                                                                                                                                                                                                                                                              led and this statement
                                                                                                                                                                                                                                                                                                                  an
                                                                                                       Signal
                                                                                                                                                                                                                                                                                                                                                           non-profit
                                                                                                                                                                                                                                                                                                                 equires a license agreement (See http://www.isb-sib.ch/announce/email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PubMed=1608932;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Guy L.,
EXTRACELLULAR (POTENTIAL)
POTENTIAL.
CYTOPLASMIC (POTENTIAL).
IG-LIKE V-TYPE DOMAIN 1.
IG-LIKE V-TYPE DOMAIN 2.
                                                                                                                                                                                                                                                                                                                                             is not removed.
                                                                                                                   domain; Glycoprotein;
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                                                                            ANTIGEN
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                                                           (POTENTIAL).
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BUTY_MOUSE
Q62556; P973
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15-JUL-1998 (Rel. 36, Last seq
16-OCT-2001 (Rel. 40, Last ann
Ishii T., Aoki N., Noda A., Adachi T., Nakamura R., Matsuda "Carboxy-terminal cytoplasmic domain of mouse butyrophilin specifically associates with a 150-kDa protein of mammary er cells and milk fat globule membrane.";
Biochim. Biophys. Acta 1245:285-292(1995).
                                                        TISSUE=Mammary gland;
MEDLINE=96125722; PubMed=8541302;
                                                                                                                Ogg S.L., Komaragiri M.V.S., MacHet 1.n., "Structural organization and mammary-specific
                                                                                                                               STRAIN=129; TISSUE=Mammary gland; MEDLINE=97148936; PubMed=8995761; Ogg S.L., Komaragiri M.V.S., Math
                                                                                                                                                                                                               Mus musculus (Mouse).
                                                                                                                                                                                                                         BTN1A1 OR BTN
                                                                                                                                                                                                                                 Butyrophilin
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                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
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                                                                                                            butyrophilin
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                                                                                                                                                                                                                                                                                                                                      NRSTGLFTMTSSLQYMPTKEDANAKFTCIVTY
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                                                                                                                                                                                                                                                                                                                                                                                                PS-----ISDFEIPTSNIRRI-ICSTSGGFPEPHLSWLENG-----EELNAINTTVSQ 165
                                                                                                philin gene.";
Genome 7:900-905(1996).
                                                                                                                                                                                                                                                                           P97392;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                               OF 39-487 FROM N.A.
                                                                                                                                                             FROM
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271
312
366
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                                                                                                                                                                                                                                   precursor (BT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AA;
                                                                                                                                                                                                                                                                                    STANDARD;
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                                                                                                                                                                                                                                           Last sequence up
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 122.5; DB 1;
Pred. No. 0.0064;
Pred. No. 54;
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IG-LIKE
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                                                                                                                                                                                           Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2A28612D0164531E CRC64;
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> S (IN REF. 3).
-> RH (IN REF. 3).
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C2-TYPE
C2-TYPE
                                                                                                                                                                                                                                                                                    524
                                                                                                                                                                                                                                                                                                                                                          194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REF.
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                                                                                                                                                                                                                                                                                    ΑA
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(POTENTIAL).
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(IN REF. 3).
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                              epithelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                            27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
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MILK-FAT DROPLETS.

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JerPi

AterPro; IPk

InterPro; IPkO03.

InterPro; IPRO03.

InterPro; IPRO03878,

InterPro; IPRO047; 1g; 1.

Pfam; PF00047; 1g; 1.

DR Pfam; PF000622; SPRY; 1.

DR SMART; SM00406; IGV; 1.

SMART; SM00449; SPRY; 1.

Transmembrane; Glycoprotein; Immuno-

Transmembrane; 524 BUT'

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEMBRANE (BY SIMILARITY).

SUBURIT: SEEMS TO ASSOCIATE WITH XANTHINE DEHYDROGENASE/OXIDASE.

SUBCELLULAR LOCATION: Type I membrane protein.

TISSUE SPECIFICITY: EXPRESSED IN MAMMARY TISSUE AND SECRETED IN ASSOCIATION WITH THE MILK-FAT-CLOBULE MEMBRANE DURING LACTATION.

DEVELOPMENTAL STAGE: EXPRESSION INCREASES DURING THE LAST HALF CPREGNANCY AND IS MAXIMAL DURING LACTATION.

PREGNANCY AND IS MAXIMAL DURING LACTATION.
                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                           CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MGD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; U67065; AAB51034.1; -. EMBL; S80642; AAB35893.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -!- SIMILARITY: CONTAINS 1 IMMUNOGLOBULIN-LIKE V-TYPE DOMAIN.
                             189
                                                                                       129
                                                                                                                     104
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MGI:103118;
SCCIQ 222
                             MCLIK 193
                                                                                                                LDGRATLLIRDVRVSDQGEYRC--LFKDNDDFEE---AAVYLKVAAVGSDPQIS-MTVQE 157
                                                                                                                                  ITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPSISDFEIPT 128
                                                         NGEMELECTSSGWYPEPQVQWRTGNREMLPSTSESKKHNEEGLFTVAVSMMIRDSSIKNM
                                                                                   SNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDFNMTTNHSF
                                                                                                                                                                           AELTCGFSPNASSEYM----ELLWFRQTRSTAVLLYRDGQEQEGQQMTEYRGRATLATAGL 103
                                                                                                                                                                                                        ATLSCGH--NVSVEELAQTRIYWQKEKKMVLTMMSGD-----MNIWPEYKNR----TIFD 68
                                                                                                                                                                                                                                     44;
                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                       Conservative
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                                                                                                                                                                                                                                                                                                              MW;
                                                                                                                                                                                                                                       34;
                                                                                                                                                                                                                                                                                                                                                                              N-LINKED (GLCNAC...)
N-LINKED (GLCNAC...)
D -> DD (IN REF. 2).
V -> F (IN REF. 2).
E -> D (IN REF. 2).
R -> S (IN REF. 2).
V -> E (IN REF. 2).
V -> E (IN REF. 2).
                                                                                                                                                                                                                                                                                                                                                      SL -> FF (IN REF. 2).
PRRV -> LAEY (IN REF.
                                                                                                                                                                                                                                                                                                                                         DIPLSPLGEGCTSGDKDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Immunoglobulin domain; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BUTYROPHILIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                POTENTIAL.
                                                                                                                                                                                                                                                                                                            333F4DE2C7704480 CRC64;
                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                     87;
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                                                                                                                                                                                                                                     Indels
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GHSLVPAGGRLYFWRQRH
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XYENLA
NCAL_XENLA STANDARD; PRT; 1088 AA.
P16170;
01-APR-1990 (Rel. 14, Created)
01-APR-1990 (Rel. 14, Last sequence update)
01-MAR-2002 (Rel. 41, Last annotation update)
Neural cell adhesion molecule 1, large isoform precursor (N-CAM 180)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                  SMART; SM00060; FN3; 2.
SMART; SM00408; IGC2; 5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam; PF00041; fn3; 2
Pfam; PF00047; ig; 5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                 DOMAIN
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                                                                                                                                                                                                                                                                                                                                    CHAIN
                                                                                                                                                                                                                                                                                                                                                                SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                     Cell adhesion; Glycoprotein; Transmembrane; Repeat; Brain; Immunoglobulin domain; Alternative splicing; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PIR; S09600; IJXLNL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; M25696; AAA49909.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -i- SUBCELLULAR LOCATION: Type I membrane protein.
-i- ALTERNATIVE PRODUCTS: THE DIFFERENT TISSUE-SPECIFIC FORMS
- N-CAM ARE PRODUCED BY ALTERNATIVE SPLICING.
-i- TISSUE SPECIFICITY: EXPRESSED IN NEURON AND IN PRESUMPTIVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nucleic Acids Res. 17:10321-10335(1989).
-I- FUNCTION: THIS PROTEIN IS A CELL ADHESION MOLECULE INVOLVED NEURON-NEURON ADHESION, NEURITE FASCICULATION, OUTGROWTH OF NEURITES, ETC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Krieg P.A., Sakaguchi D.S., Kintner C.R.; "Primary structure and developmental expression of a large cytoplasmic domain form of Xenopus laevis neural cell adhesion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           molecule (NCAM).";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. MEDLINE=90098871; PubMed=2481269;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Kenopodinae; Kenopus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEVELOPMENTAL STAGE: THE MRNA ENCODING THIS LD-NCAM IS THE MAJOR TRANSCRIPT PRESENT IN BOTH MATERNAL RNA AND IN THE EMBRYO DURING
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IPR003961; FN_III.
IPR003006; Ig_MHC.
IPR003598; Ig_c2.
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CYTOPLASMIC (POTENTIAL).
IG-LIKE C2-TYPE DOMAIN 1.
IG-LIKE C2-TYPE DOMAIN 2.
IG-LIKE C2-TYPE DOMAIN 3.
IG-LIKE C2-TYPE DOMAIN 4.
IG-LIKE C2-TYPE DOMAIN 4.
IG-LIKE C2-TYPE DOMAIN 5.
FIBRONECTIN TYPE-III 1.
FIBRONECTIN TYPE-III 2.
                                                                                                                                                                                                                                         EXTRACELLULAR (POTENTIAL).
POTENTIAL.
                                                                                                                                                                                                                                                                                                                              NEURAL CELL ADHESION MOLECULE
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CARBOHYD
CARROHYD
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                                                                                                                                                       228 VVLSCDADGFPDPEISWLKKGEPI------EDGE-----EKISFNEDQSEMTIHH 271
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                                                                                                                                                                                                                                                                                  RGIKKTDEGTYRC-----EGRILARGEINYKDIQVIVNVP-PTIQARQLRVNATANMAES 227
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NISSING (IN ISOFORM N-CAM 140).

8 MW; 62738B55B03F3E83 CRC64;
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HEPARIN-BINDING (POTENTIAL).
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 2000000000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Perfect score:
                                                                                                                                                                                                                                                                                                 Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Total number of hits satisfying chosen parameters:
SPTREMBL_19:*

1: sp_archea:*
2: sp_bacteria
3: sp_fung1:*
4: sp_human:*
5: sp_inverteb:
6: sp_mammal:*
7: sp_mhc:*
8: sp_organel:
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:
11: sp_rodent:
12: sp_virus:*
13: sp_verteb:
14: sp_urclass
15: sp_archeap
17: sp_archeap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BLOSUM62
Gapop 10.0 , Gapext 0.5
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1149
1 GLSHFCSGVIHVTKEY
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1405.828 Million cell updates/sec
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                 sp_organelle:*
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sp_plant:*
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sp_fungi:*
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            sp_rodent:*
sp_virus:*
sp_vertebrate:*
sp_unclassified:*
sp_rvirus:*
sp_bacteriap:*
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sp_mammal:*
sp_archeap:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

16	15	14	13	12	11	10	9	8	7	6	ر ن	4	ω	2	_	Result No.
602	603.5	705	705	717.5	719	743	743	761	762.5	762.5	764	1085	1085	1100	1118	Score
52.4	52.5	61.4	61.4	62.4	62.6	64.7	64.7	66.2	66.4	66.4	66.5	94.4	94.4	95.7	97.3	Query Match L
290	321	235	235	296	304	292	292	229	297	288	230	289	288	288	288	Length I
11	11	0	6	6	6	6	δ	σ	σ	σ	6	σ	σ	6	6	DB
Q62680	035187	Q9NOTO	Q9TQS8	046405	Q9TQX1	002758	Q9GMZ8	Q9TT71	Q9вE99	Q9TT70	Q9N2I3	Q28347	Q9BDN6	Q28499	077684	ID
Q62680 rattus norv	035187 rattus norv	Q9n0t0 canis famil	Q9tqs8 canis famil	046405 bos taurus	Q9tqx1 canis famil	002758 felis silve	Q9gmz8 felis silve	Q9tt71 sus scrofa	Q9be99 sus scrofa	Q9tt70 sus scrofa	Q9n2i3 sus scrofa	Q28347 cercocebus	Q9bdn6 cercocebus	Q28499 macaca mula	077684 macaca neme	Description

44 45	41 42	40	ω (9	ນ ພ 7	36	35	34	ω ω	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
139.5 138 137	150 142	152	153	156.5	161.5	162	171	176	176	177	177	178	182	188.5	188.5	200.5	200.5	200.5	255.5	349.5	350	560	596	601.5
12.1 12.0 11.9	13.1 12.4	13.2	13.3	13.6 26	14.1	14.1	14.9	15.3	15.3	15.4	15.4	15.5	15.8	16.4	16.4	17.4	17.4	17.4	22.2	30.4	30.5	48.7	51.9	52.3
521 509 509	309 316	314	356	290	325	313	284	323	275	323	323	323	329	296	280	332	332	329	212	173	174	306	321	321
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046651 oryctolagus P97710 rattus norv Q9qwi5 rattus norv	~	mus	mus	Q9nzq/ nomo sapien O9ep73 mus musculu	002838 sus scrofa		Q9gl33 bos taurus				Q9bdm9 macaca neme		Q9ttf2 canis famil	O42404 gallus gall		Q95116 felis silve		Q9xsx6 felis silve	Q61332 mus musculu			Q9r1z9 mus musculu	055202 rattus norv	Q62624 rattus norv

ALIGNMENTS

Qу	Qy Db	Ma Ma	DR DR SQ	DR DR	DR RA	8 2 2 2 2 2 S		RESULT 077684 ID 0
62 KNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPSI 121 	2 LSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKWVLTMMSGDMNIWPEY 61 	Query Match 97.3%; Score 1118; DB 6; Length 288; Best Local Similarity 97.7%; Pred. No. 4.6e-96; Matches 210; Conservative 1; Mismatches 4; Indels 0; Gaps	Plam; PF00047; 19; 1. SMART; SM00409; IG; 1. SMART; SM00410; IG_like; 1. SEQUENCE 288 AA; 33131 MW; 76BBC42839E9AB79 CRC64;	m m m	UENCE FROM N.A. us G., Hnatyszyn L mitted (JUL-1998) L; AF079519; AAC31	Macaca nemestrina (Pig-tailed macaque). Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Butheria; Primates; Catarrhini; Cercopithecidae; Cercopithecinae; Macaca. NCBI_TaxID=9545;	01-NOV-1998 (TrEMBLrel. 08, Created) 01-NOV-1998 (TrEMBLrel. 08, Last sequence update) 01-DEC-2001 (TrEMBLrel. 19, Last annotation update) B7 PROTEIN. R7	LT 1 84 807684 PRELIMINARY; PRT; 288 AA.

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RESULT

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Best Local S
Matches 207
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Q28499;
01-NOV-1996
01-NOV-1996
01-DEC-2001
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EMBL; U19840; AAA86706.1; -.
EMBL; AF344849; AAX37609.1; -.
InterPro; IPR003599; Ig.
InterPro; IPR003600; Ig_like.
InterPro; IPR003006; Ig_MHC.
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SMART; SM00409; IG; 1.
SMART; SM00410; IG_like; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae; NGBI Tarrh-Gri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE-96003435; PubMed-7561102;
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                                                                                                                                                                                                                                                                            MTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
                                                                                                                 KNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPSI 121
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                                                                                           TDSETPPSNIRRIICSNSGGFPEPHLSWLENGEELNAISTTVSQDPETELYTVSSKLDFN
                                                                                                                                                                                    KNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVMLSVKADFPTPSI 147
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                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
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(TrEMBLrel. 01, Last sequence update)
(TremBLrel. 19, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     155:3946-3954(1995).
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33141 MW;
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96.3%;
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                                                                                                                                                                                                                                                                                                                                                                                                Score 1100; DB 6;
Pred. No. 2.2e-94;
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; E70BEA4006C7A609 CRC64;
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Best Local Similarity
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Q28347; 01-NOV-1996 (TrEMBLrel. (
01-NOV-1996 (TrEMBLrel. (
01-DEC-2001 (TrEMBLrel. 1
B7 PROTEIN (FRAGMENT)).
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Q9BDN6;
Q1-JUN-2001
01-JUN-2001
01-DEC-2001
                                                                                                        Cercocebus torquatus (red-crowned mangabey).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
MEDLINE=96003435; PubMed=7561102;
Villinger F., Brar S.S., Mayne A., Chikkala N., A
"Comparative sequence analysis of cytokine genes
                                            TISSUE=BLOOD;
                                                                                 Cercopithecinae; Cercocebus.
NCBI_TaxID=9530;
                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF00047; ig; 1.
SMART; SM00409; IG; 1.
SMART; SM00410; IG_like;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR003599; Ig.
InterPro; IPR003600; Ig_like
InterPro; IPR003006; Ig_MHC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fas/Fas-ligand and co-stimulator Immunogenetics 53:315-328(2001). EMBL; AF344839; AAK37535.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cercocebus torquatus atys (Red-crowned mangabey) (Sooty mangabey). Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Villinger F., Bostik P., Weiss W.R., Ansari A.A.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cercopithecinae; Cercocebus.
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                                                                                                                                                                                                                                                                                                     MTTNHSFVCLIKYGHLRVNQTFNWNTPKQEHFPDN
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                                                                                                                                                                                                                                     PRELIMINARY;
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(TrEMBLrel. 19, Last annotation updat
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95.38;
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Ig_like.
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Best Local Similarity
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J. Immunol. 155:3946-3954(1995).
EMBL; U1983; AAA86700.1;
InterPro; IPR003600; Ig_like.
InterPro; IPR003006; Ig_MHC.
Pfam; PF00047; ig; 11.
SMART; SW00410; IG_like; 2.
NON_TER 289 289
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                                                                                                                                                                                     InterPro; IPR003599; Ig. InterPro; IPR003500; Ig_11ke. InterPro; IPR00306; Ig_MHC. InterPro; IPR003006; Ig_MHC. Pfam; PF00047; Ig; 2. SMART; SM00409; IG; 1.
                                                                                                                                                                                                                                              STRAIN-LANDRACE; TISSUE-SPLEEN; Wada M., Anae S., Hoshi M., Nio M., Ohi R.; "Porcine CD80(B-7) mRNA, partial cds."; Submitted (APR-1999) to the EMBL/GenBank/DDBJ EMBL; AB0Z6121; BAA90700.2; -.
                                                                                                                                                                                                                                                                                                                                                                                          CD80 PROTEIN PRECURSOR.
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Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
                                                                                                                               SEQUENCE
                                                                                                                                                    SIGNAL
                                                                                                                                                                Signal.
                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=9823;
                                                                                                                                                                           SMART; SM00410; IG_like;
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                                                                       140;
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 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS
                       GLFDFCSGIVQVTKTVKEIAVLSCDYNISTEELTRVRIYWQKDNEMVLAVMSGKVKVWPK
                                             GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE
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230 }
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289 AA;
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230 P
26028 MW;
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95.3%;
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Last sequence update)
Last annotation updat
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Pred. No. 5.4e-93;
                                                                              Score 764; DB 6
Pred. No. 3e-63;
                                                                                                                               POTENTIAL. EB63AD172663C4A4 CRC64;
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AC Q9
DT 01
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01-MAY-2000
01-MAY-2000
01-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Faas S.J., Giannoni M.A., Mickle A., Kiesecker C.L., Reed D.J., Wu Frodor W.L., Mueller J.P., Matis L.A., Rother R.P.;
"Primary Structure and Functional Characterization of a Soluble, Alternatively Spliced Form of B7-1.";
J. Immunol. 164:6340-6348(2000).
EMBL; AF203443; AAF22750.1;
InterPro; IPR003599; Ig.
InterPro; IPR003509; Ig_Hike.
InterPro; IPR003006; Ig_Hike.
InterPro; IPR003006; Ig_MHC.
Pfam; PF00047; ig; 2.
SWART; SM00409; IG; 1.
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NON_TER
SEQUENCE
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SIGNAL
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Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
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MEDLINE=20302785; PubMed=10843688;
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                                                                                                                                                                                                                                                                                                                                                                                               YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
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                                                                                                                                                                        NVTGNHSFMCLVKYGGLTVSQTFNWQKSAKRE 233
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(TrEMBLrel. 13, Last sequence update)
(TrEMBLrel. 19, Last annotation updat
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32510 MW;
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Sus.
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Q9BE99; 01-JUN-2001

(TrEMBLrel.

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Q9BE99

PRELIMINARY;

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RESULT Q9TT71
ID Q9
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Best Local S
Matches 141
                                                                                                                                                                                                                                        Sus scrofa (Pig).
Eukaryota; Metazoa; Chordata; Crania:
Mammalia; Eutheria; Cetartiodactyla;
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01-MAY-2000 (TrEMBLrel. 13,
01-MAY-2000 (TrEMBLrel. 13,
01-DEC-2001 (TrEMBLrel. 19,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Signal.
                                                                                   Faas S.J., Giannoni M.A., Mickle A., Kiesecker C.L., Reed D.J., Fodor W.L., Meuller J.P., Matis L.A., Rother R.P., "Primary Structure and Functional Characterization of a Soluble, Alternatively Spliced Form of B7-1.";
  TISSUE-SPLEEN;
                                                              Submitted (NOV-1999) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                          NCBI_TaxID=9823;
                                                                                                                                                                                                                                                                                                                     CD80 OR CD80/B7-1.
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                     SEQUENCE FROM N.A.
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SMART; SM00409; IG; 1.

SMART; SM00410; IG_like; 1.
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InterPro; IPR003600; Ig_like.
InterPro; IPR003006; Ig_MHC.
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isoforms.";
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01-DEC-2001
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Hayashi Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN=LANDRACE; TISSUE=ILEUM MUCOSA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GLFDFCSGIVQVTKTVKEIAVLSCDYNISTEELTRVRIYMQKDNEMVLAVMSGKVKVWPK 81
                                                                                                                                                                                                                                                                                                                                             PROTEIN PRECURSOR.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
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Y., Ohi R.;
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297 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
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(TremBLrel. 19, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AΑ;
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297 C
33438 MW;
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Last annotation updat
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; 23109711EA63EF23 CRC64;
                                                                                                                                                                                                                                               Craniata; Vertebrata;
actyla; Suina; Suidae;
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5.8e-63;
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Sus.
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Best Local
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EMBL; AB038153; BAA90764.1; ...
InterPro; IPR003599; Ig.
InterPro; IPR003600; Ig_like.
InterPro; IPR003060; Ig_MHC.
InterPro; IPR003006; Ig_MHC.
IPR003009; Ig; 1.
SMART; SM00410; IG; 1.
SMART; SM00410; IG_like; 1.
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       InterPro; IPR003599; Ig.
InterPro; IPR003600; Ig_Like.
InterPro; IPR003006; Ig_MHC.
Pfam; PF00047; Ig; 1.
SMART; SM00409; IG; 1.
SMART; SM00409; IG; 1.
SEQUENCE 292 AA; 33540 MW;
                                                                                                                                                                                                                                                                   Nishimura Y., Shinojima M., Miyazawa T., Sato E., Nakamura K., Izumiya Y., Ikeda Y., Mikami T., Takahashi E.; "Molecular cloning of the cDNA encoding the feline B-lymphocyte activation antigen B7-1 (CD80) and B7-2 (CD86) homologues which interact with human CTLA4-1g."; Eur. J. Immunogenet. 27:427-430(2000).
                                                                                                                                                                                                                                Felis silvestris catus (Cat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Carnivora; Fissipedia; Felidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Signal.
                                                                                                                                                                                   MEDLINE=20485322; PubMed=11029611;
                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                        NCBI_TaxID=9685;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Wada M., Amae S., Hoshi M., Nio M., Ishii T., Ohi R.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 YKNRTIFDITNNLSIVILALRPSDEGTYECVYLKYEKDAFKREHLAEVTLSVKADFPTPS 120
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67.8%;
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Pred. No. 5.7e-63;
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; C3AD172663C4A4ED CRC64;
          ED9AEECE10D30401 CRC64;
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Felis.
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Best Local Similarity

64.7%; 63.3%;

Score 743; Pred. No.

3.7e-61;

Length 292;

Query Match

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  09TQX1
09TQX1;
01-MAY-2000
01-MAY-2000
01-DEC-2001
B7-1 PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-JUL-1997 (TrEMBLrel. 04, Created)
01-JUL-1997 (TrEMBLrel. 04, Last sequence up
01-DEC-2001 (TrEMBLrel. 19, Last annotation
T-CELL SPECIFIC SURFACE GLYCOPROTEIN B7-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Felis catus t-cell specific surface glycoprotein Thesis (1996), Veterinary Pathobiology, Texas A&M EMBL; U57755; AABS3575.1; .
InterPro; IPR003600; Ig_like.
InterPro; IPR003066; Ig_MHC.
Pfam; PF00047; ig; 1.
SMART; SM00410; IG_like; 2.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Carnivora; Fissipedia; Felidae;
NCBI_TaxID=9685;
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                                                                                                                                                                                                                                                                                                                                    TDLGNPSHNIKRIMCLTSGGFPKPHLSWLENEEELNAINTTVSQDPETELYTISSELDFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                          KNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPSI 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPSI
                                                                                                                                                                                                                                         MTNNHSFLCLVKYGNLLVSQIFNWQ--KSEPQPSN
                                                                                                                                                                                                                                                                                                                                                          KNRTFTDVTDNHSIVIMALRLSDNGKYTCIIQKIEKGSYKVKHLTSVMLLVRADFPVPSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LFYFCSGIIQVNKTVEEVAVLSCDYNISTKELTEIRIYWQKDDEMVLAVMSGKVQVWPKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TDLGNPSHNIKRIMCLTSGGFPKPHLSWLENEEELNAINTTVSQDPETELYTISSELDFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KNRTFTDVTDNHSIVIMALRLSDNGKYTCIIQKIEKGSYKVKHLTSVMLLVRADFPVPSI
       PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          136;
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    0 (TrEMBLrel. 0 (TrEMBLrel. 1 (TrEMBLrel. 1 PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            292 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
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                                                                                                                        PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ĬG_like; 2.
\A; 33482 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  E.W.;
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                           13,
19,
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                        Last sequence update)
Last annotation update)
                                                                         Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 743; DB 6;
Pred. No. 3.7e-61;
3; Mismatches 44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6F117E7852B7950F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
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Univ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          87
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       RESULT
046405
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O46405;
O46405;
O1-JUN-1998 (TrEMBLrel. 06, Created)
O1-JUN-1998 (TrEMBLrel. 06, Last sequence update)
O1-JUN-1998 (TrEMBLrel. 19, Last annotation update)
CD80 ANITGEN PRECURSOR (FRAGMENT).
BOS taurus (Bovine).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eul
Bovidae; Bovine; Bos.
Bovidae; Bovine; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Immunogenetics 50:349-353(1999).
EMBL; AF106824; AAF17295.1; -.
EMBL; AF106833; AAF17293.1; -.
EMBL; AF106829; AAF17293.1; JOINED.
EMBL; AF106830; AAF17293.1; JOINED.
EMBL; AF106831; AAF17293.1; JOINED.
EMBL; AF106832; AAF17293.1; JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Signal.
                                         Parsons K.R., Howard C.;
"Cloning of cattle CD80.";
Immunogenetics 49:231-234(1999).
EMBL; Y09950; CAA71081.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR003599; Ig.
InterPro; IPR003600; Ig_Hike.
InterPro; IPR003006; Ig_MHC.
InterPro; IPR003006; Ig_HC.
SMART; SM00409; IG; 1.
                                                                                                                                       SEQUENCE FROM N.A.
MEDLINE=99115507; PubMed=9914337;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Molecules."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "New
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A. MEDLINE=20093996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae;
                                                                                                                                                                                                              NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9615;
                        InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     182
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            208
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LFYFCSGIIQVNKTVKEVAVLSCDYNISTTELMKVRIYWQKDDEVVLAVTSGQTKVWSKY 87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Forms of Dog CD80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPSI 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ITSNHSFYCLYKYGDLTYSQIFNWQKSYEPHPPNN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDFN 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ENRTFADFTNNLSIVIMALRLSDNGKYTCIVQKTEKRSYKVKHMTSVMLLVRADFPVPSI 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    	ext{TDLGNPSHDIKRIMCSTSGGFPKPHLSWWENEEELNAANTTVSQDPDTELYTISSELDFN}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        130;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SM00410; IG_like;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sim
    IPR003599;
IPR003600;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               <u>.</u>
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34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      33 P
304 B
34454 MW;
Ig.
Ig_like.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           62.6%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        36;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 719; DB 6; Pred. No. 6.7e-59;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             POTENTIAL.
B7-1 PROTEIN
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                                                                                                                                                                                                                                                             Ruminantia; Pecora;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         242
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Encode
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                                                                                                                                                                                                                                                                                      Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Euteleostomi; Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    304;
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                                                                                                                                                                                                                                                               Bovoidea;
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207

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RESULT 13
Q9TQS8
ID Q9TQS8
AC Q9TQS8
DT 01-MAY
DT 01-DEC
DE SECRET
GN CD80.
OS CARÍS
OC BUKALY
OC MARMAI
OX NCBL_1
RN (CBL_1
RN (CBL_1
RN YANG
RT "New I
RN EMBL;
DR EMBL;
DR EMBL;
DR EMBL;
DR INTER
DR SMART
DR SMART
CHAIN
SO SEQUE
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Best Local (
                                           Matches
                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
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Pfam; PF00047; ig; 2.
SMART; SM00409; IG; 1.
SMART; SM00410; IG_like; 1.
Signal.
SIGNAL 1 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9TQS8
Q9TQS8;
01-MAY-2000
01-MAY-2000
01-DEC-2001
                                                                                                                CHAIN
SEQUENCE
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SEQUENCE
                                                                                                                                          Signal.
SIGNAL
                                                                                                                                                                   Pfam; PF00047; ig; 1.
SMART; SM00409; IG; 1.
SMART; SM00410; IG_like; 1.
                                                                                                                                                                                                        EMBL; AF106831; AAF17294.1; JOINED. EMBL; AF106829; AAF17294.1; JOINED. EMBL; AF106830; AAF17294.1; JOINED. InterPro; IPR003599; Ig_like. InterPro; IPR003600; Ig_like. InterPro; IPR003006; Ig_MHC.
                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A. MEDLINE=20093996; PubMed=10630300;
                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              SECRETED B7-1 PROTEIN PRECURSOR.
                                                                                                                                                                                                                                                                                                                            Yang S., Sim G.-K.;
"New Forms of Dog CD80 and CD86 Transcripts that Encode
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Canis familiaris (Dog).
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                                         Local Similarity 61.5 hes 128; Conservative
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2 LSHECSGVIHVTKEVKEVAŢLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPEY 61 | :|||:|| :|| :|| :| :| :| :| :|
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296
296 AA;
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235 AA;
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(TrEMBLrel. 13, Last sequence update)
(TrEMBLrel. 19, Last annotation updat
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235 S
26917 MW;
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296
33618 MW;
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63.2%; Pred. No. 9e-
tive 28; Mismatches
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                                        61.4%; Score 705; DB 6;
61.5%; Pred. No. 9.7e-58;
Live 33; Mismatches 47
                                                                                                             POTENTIAL.
SECRETED B7-1 PROTEIN.
; CC08CAA676BCB40A CRC64;
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O35187;
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O1-JAN-1998
O1-DEC-2001
B7.1.
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01-OCT-2000 (TremBirel. 15, Last sequence up
01-DEC-2001 (TremBirel. 19, Last annotation
T-CELL CO-STIMULATORY PROTEIN B7-1.
B7-1.
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Q9NOTO;
01-OCT-2000
01-OCT-2000
01-DEC-2001
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EMBL; AF257653; AAF69006.1;
InterPro; IPR003599; Ig.
InterPro; IPR003600; Ig_llike.
InterPro; IPR003006; Ig_MHC.
Pfam; PF00047; ig; 1.
SMART; SM00410; IG; 1.
SMART; SM00410; IG_like; 1.
SEQUENCE 235 AA; 26933 MW; COEA51DA9FB224E3 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Khatlani T., Ma Z., Onishi T.;
"Cloning and Sequencing of canine cDNA encoding T-cell co stimulatory molecule B7-1.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9615;
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                                                                                                                                                                                                        SDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDFN 181
                                                                                                                                                                                                                                              ENRTFADFTNNLSIVIMALRLSDNGKYTCIVQKTEKRSYKVKHMTSVMLLVRADFPVPSI 147
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            (TrEMBLrel. 05, (TrEMBLrel. 05, (TrEMBLrel. 19,
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            Last sequence update)
Last annotation updat
                                       Created)
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RC STRAIN=FISCHER;

RX MEDLINE=99176848; PubMed=10078962;

RX Visse E., Siesjo P., Widegren B., Sjogren H.O.;

RT "Regression of intracerebral rat glioma isografts by therapeutic rat subcutaneous immunization with interferon-gamma, interleukin-7, or rat subcutaneous immunization with interferon-gamma, interleukin-7, or rat B7-1-transfected tumor cells.";

RT Gancer Gene Ther. 6:37-44(1999).

REMBL; AFO10465; AAB66351.1; -.

DR InterPro; IPR003509; Ig_like.

DR InterPro; IPR003600; Ig_like.

DR InterPro; IPR003006; Ig_MHC.

DR InterPro; IPR003006; Ig_MHC.

DR InterPro; IPR003006; Ig_MHC.

DR Ffam; PF00047; ig; 2.

DR SMART; SM00410; IG_like; 1.

DR SMART; SM00410; IG_like; 1.

SQ SEQUENCE 321 AA; 36351 MW; 071C6007FBBD1E60 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                             Query Match 52.5%; Score 603.5; DB 11; Length 321; Best Local Similarity 54.9%; Pred. No. 4.1e-48; Matches 113; Conservative 34; Mismatches 58; Indels 1;
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Rattus norvegicus (Rat).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.

NCBI_TaxID=10116;

[1]
                                                                                                              180 FNMTTNHSFMCLIKYGHLRVNQTFNW 205
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score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.
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Copyright (c) 1993 - 2000 Comp
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AAW41415
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AAW38414
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Human B7 protein s
Human B7-2 antigen
Human B7-2 ntigen
Human B 1ymphocyte
Human B7 1 co-stim
Human B7.1 protein
Colorectal tumour
Human B 1ymphocyte
Human B7.1-murine
                                                                                                                                                                                                                                                                                      Description
                                                                                                                                                                                                              Human B lymphocyte
B7-1. Homo sapien
                                                                                                                                                                                                            Homo sapien
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Amino acid sequenc	AAB83837		246	15.8	182
Human B7-2	AAW86005		246	ū	182
hB/.lhis so			244	5	182
Canine B7			280	9	œ
Feline B/-	4		332	17.4	200.5
Cat CD86 (B7-2) 1	Ψ		329	7	ō
Feline CD86 (B7-2	AAY32285	21	329	7	ō
Mouse B7-1 IgV-li	AAR82903	16	226	Н	õ
Mouse B7-1 IgV-li	AAR82902	16	212	۳	ū
Mouse B7-1 (IgV-1	AAR82900	16	200	9	305
Mouse B7-1 (1	AAR82901	16	214	7	
Feline B7-1S prot	AAY41082	20	173	0	349.5
Murine B7 pro	AAY99967	21	306	œ	558
Murine B ly	AAB37088	21	306	œ	558
Mouse B7-	AAW73641	20	306	œ	558
Mouse B7 pr	AAW67805	20	306	8	558
Mouse B7	AAR82892	16	320	œ.	561
Mouse B	AAB19960	22	306		561
	AAR67990	16	306	σ.	561
Mouse B7	AAR82893	16	306		561
Canine B7-1S	AAY41077	20	235	-	705
Canine B7-1 p	AAY41075	20	304		719
Cat CD80 (B7-1)-S	AAY32277	21	292		739
Feline CD80 (B7-1	AAY32284	21	292		739
Cat CD80 (B7-1)	AAY32276	21	292		743
Feline CD80 (AAY32283	21	292		743
Soluble porcine	AAY97780	22	229		761
Human B7.1 for u	AAW35858	18	208	:-	1047
hB7.1Fc sol	AAW90206	20	480	٠.	1138
CD80-Ig-alpha-tp	AAW42338	19	492	۳.	1143
Amino acid sequen	AAB83836	22	488	۳	1143
Human B7-1.	AAW86004	20	488	۳.	1143
Soluble B7-1-Ig	AAW38415	18	475	99.6	1144
hB7.1glu-glu	AAW90208	20	251		1146

ALIGNMENTS

RESULT AAR67989

AAR67989 standard; Protein; 288

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THE FITTER TO SERVICE OF THE FITTER TO SERVICE OF THE FITTER THE F
                                                                                                                                                                                                                                                                                                          /label= intracellular Misc-difference 53..55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B lymphocyte antigen; B7-1; B cell activation antigen; CD28; ligand; T cell surface antigen; transmembrane protein.
                                                                                                                                                                                                                                     /label- N-linked glycosylation Misc-difference 89..91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human B lymphocyte antigen B7-1 (hB7-1).
Misc-difference
                                                                         /label= see above Misc-difference 186..188
                                                                                                                                                           Misc-difference 98..100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21-AUG-1995 (first entry)
/label= see above 207..209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /label= extracellular 243..269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /label= signal sequence
/note= "hydrophobic"
35..242
                                                                                                                                                                                                                                                                                                                                                                                                                  /label= transmembrane 270..288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
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RESULT
AAW38414
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XXXXI
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                                                                                                                                                                                                                                                          Matches 216;
                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
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19-AUG-1993;
03-NOV-1993;
          AAW38414;
                                                                                                                                                                                                                                                                                                                            Q81371 is in pCDM8 vector. It is derived from lymphoid B cells, cell line Raji, clone no. 13. Its position in the genome is chromosome/segment 3. It was published by Freeman, F.J. et al., J. of Immunology, 143: 8: 2714-2722, 15th October 1989. It can be found in Genbank at Accession no. M27533. The encoded protein, R67989, binds both human CTLA4 and human CD28. It is related to human hB7-2 (see Q81351) and murine hB7 (see Q81372).
                             AAW38414 standard;
                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                       Nucleic acids encoding CTLA4/CD28 counter receptor, B7-2 - useful for enhancing or suppressing T-cell mediated immune responses
                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure; pages 111-113; 175pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Freeman GJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO9503408-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (DAND ) DANA FARBER CANCER INST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-JUL-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Misc-difference
                                                                                   207
                                                                                                        181
                                                                                                                                                  121
                                                                                                                                                                      87
                                                                                                                                                                                          61
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                                                  N
                                                                              YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
                                                                                                                                    ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDDETELYAVSSKLDF 180
                                                                                                                                                                 yknrtifditnnlsivilalrpsdegtyecvvlkyekdafkrehlaevtlsvkadfptps\\
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1995-075236/10.
DB; AAQ81371.
                                                                                                                         isdfeiptsnirriicstsggfpephlswlengeelnainttvsqdpetelyavsskldf
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REPLIGEN CORP
                                                                                                                                                                                                                                                                                                              288 AA;
                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gray GS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          93US-0101624.
93US-0109393.
93US-0147773.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     94WO-US08423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /label= see above 35..138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              226.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /label= see above 211..213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /label= Ig V-set domain
139..236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /label=
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label= see above
                             Protein;
                                                                                                                                                                                                                                                     100.0%; Score 1149; DB 16; 100.0%; Pred. No. 2.6e-103; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              . 228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Greenfield
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ig C-set domain
                             288
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                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                             288;
                                                                                                                                                                                                                                                       0;
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RESULT
AAW67804
ID AAW6
В
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                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                          Query Match
       Homo sapiens
                                                 Human B7 protein sequence
                                                                       13-APR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                       New xanthene derivatives useful as immunomodulators - e.g. methyl 2-(carboxymethylsulphinyl)-5,7-dichloro-3,8-dihydroxy-6-methyl-9-oxo-9H-xanthene-1-carboxylate.
                                   Human; B7;
                                                                                                         AAW67804 standard;
                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                            The present sequence was used in the development of a novel method for screening for compounds that inhibit or enhance binding of CD28
                                                                                                                                                                                                                                                                                                                                                                                                          Disclosure; Fig 4; 117pp; English.
                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                       to B7-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N-PSDB; AAT96358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1997-450803/42.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hattori M, Hida T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               02-OCT-1996;
05-MAR-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           04-MAR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17-SEP-1997.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EP795554-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Screening; inhibitor; enhancer; binding; CD28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      08-APR-1998 (first entry)
                                                                                                                                                         207
                                                                                                                                                                                            147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (TAKE ) TAKEDA CHEM IND LTD.
                                                                                                                                                                                                                                                                                                       Local Similarity
hes 216; Conserv
                                                                                                                                                                                                                                87
                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                     27
                         cell; CD28;
                                                                                                                                                                                                                                                                w
                                                                                                                                                              NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
                                                                                                                                                                                        YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
                                                                                                                                                      nmttnhsfmclikyghlrvnqtfnwnttkqehfpdn
                      transfection; mammal; tumour cell; sarcoma; co-stimulation;
D28; CTLA4; ligand; T-lymphocyte response; metastasis.
                                                                                                                                                                                                                                                                                                                                                      288 AA;
                                                                     (first entry)
                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               96JP-0262085
96JP-0047795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           97EP-0301438
                                                                                                           Protein;
                                                                                                                                                                                                                                                                                                                100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Kurokawa T,
                                                                                                           288
                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                               Score 1149; DB 18;
Pred. No. 2.6e-103;
                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nakanishi A;
                                                                                                                                                       242
                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                         288;
                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                     Gaps
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Query Match
Best Local S
Matches 216
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Peptide
                                                                                                                                                                                                         which allows the induction of an anti-tumour response by T cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Domain
                                                                                The modified tumour cells can be used for inducing an anti-tumour T-lymphocyte response in a subject and are effective against both modified and unmodified tumour cells. The modified tumour cells can also be administered to prevent or inhibit metastatic spread of a tumour or to prevent or inhibit recurrence of a tumour following therapeutic
                                                                                                                                    This sequence represents the amino acid sequence of a human B7 protein. The coding sequence can be used to transfect mammalian tumour (sarcoma) cell so that the B7 protein is expressed by the tumour cell and has the ability to co-stimulate T cells and bind CD28 or CTLA4 ligand.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Modified-site
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Protein
                                                                                                                                                                                                                                                       N-PSDB; AAX00757.
                                                                                                                                                                                                                                                                                                                                                      03-NOV-1993;
                                                                                                                                                                                                                                                                                                                                                                          03-NOV-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Doma in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Domain
                                                    Sequence
                                                                                                                                                                                          Disclosure; Column 31-34; 24pp; English
                                                                                                                                                                                                                                                                                                                                                                                              12-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                   US5858776-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Domain
Local Similarity hes 216; Conserv
                                                                                                                                                                                                                                                                  1999-119893/10.
                                                                                                                                                                                                                                                                                                                     DANA FARBER CANCER INST INC HARVARD COLLEGE.
                                                                                                                                                                                                                                                                                      Freeman GJ,
                                                    288 AA;
Conservative
                                                                                                                                                                                                                                                                                                                                                     93US-0147772.
                                                                                                                                                                                                                                                                                                                                                                          93US-0147772.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note= ".
211..213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note=
207..20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note=
89..91
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53..55
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35..13
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35..24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "signal peptide"
35..288
                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "Ig V-set domain"
140..236
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            note= "Asn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                'note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ..209
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100.0%; Score 1149; DB 20; 100.0%; Pred. No. 2.6e-103; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Asn is N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Asn is N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Asn
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Asn is N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "transmembrane domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "extracellular domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "mature B7
                                                                                                                                                                                                                                                                                                                                                                                                                                      "Ig C-set domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "intracellular domain"
                                                                                                                                                                                                                                                                                       Glimcher
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            is
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                                                                                                                                                                                                                                                                                       LH,
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                                                                                                                                                                                                                                                                                       Ostrand-Rosenberg
 Indels
                    Length
                      288;
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 Gaps
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Qy Db

1 27 61 Matches 216;

Conservative

0,

Mismatches

Indels

0,

Gaps

0;

86

GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIIWQKEKKMVLTMMSGDMNIWPE 60

glshfcsgvihvtkevkevatlscghnvsveelagtriywqkekkmvltmmsgdmniwpe

YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120

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RESULT
AAW73640
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QΥ
                                                         Query Match
Best Local Similarity
                                                                                              This sequence is the human B7-2 antigen, which can be used in the method of the invention. The method is for transfecting an isolated mammalian tumour cell with an exogenous nucleic acid molecule encoding a mammalian B7-2 molecule, where the B7-2 molecule is expressed in the tumour cell is capable of costimulating a T cell and is capable of binding a CD28 or CTLA4 ligand. The method is useful for treating tumours
                                                                                                                                                                                                                     Tumour cell transfected to express B7-2 molecule therapy by stimulating T-cell response
                                                                                                                                                                                                                                                               WPI; 1999-130394/11.
N-PSDB; AAV55786.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        US5861310-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTLA4 ligand;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B7-2 antigen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human B7-2 antigen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAW73640 standard; Protein; 288
                                                                                                                                                                                            Disclosure; Column 37-40; 27pp; English
                                                                                                                                                                                                                                                                                                      Freeman GJ,
                                                                                                                                                                                                                                                                                                                                                           30-MAY-1995;
03-NOV-1993;
                                                                                                                                                                                                                                                                                                                                                                                                   30-MAY-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               23-MAR-1999
                                                       Sequence
                                                                                                                                                                                                                                                                                                                                 (DAND ) DANA FARBER CANCER INST INC
                                                                                                                                                                                                                                                                                                                                                                                                                              19-JAN-1999
                                                                                by stimulating a T-cell response against tumour cells in vivo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       207
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             YKNRTIFDITUNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GLSHFCSGYIHVTKEVKEVATLSCGHNVSVEELAQTRIYMQKEKKWVLTMMSGDMNIWPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     nmttnhsfmclikyghlrvnqtfnwnttkqehfpdn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   {\tt glshfcsgvihvtkevkevatlscghnvsveelaqtriywqkekkmvltmmsgdmniwpe}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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                                                         288
                                                                                                                                                                                                                                                                                                      Gray GS,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mammalian
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93US-0147773.
                                                                                                                                                                                                                                                                                                                                                                                                    95US-0456104
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100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             T-cell response;
                                                                                                                                                                                                                                                                                                        Nadler
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tumour cell; T cell costimulation; CD28 ligand;
  Score 1149; DB 20;
Pred. No. 2.6e-103;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                human.
              Length 288;
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CC The invention relates to an isolated nucleic acid molecule encoding a CC fusion protein comprising a first nucleotide sequence encoding a first CC peptide, and a second nucleotide sequence encoding a second peptide. CC The first nucleotide sequence hybridizes in 6 % sodium chloride/sodium CC citrate (SSC) at 45 deg. C, followed by a wash in 0.2 x SSC at 50 deg. C CC to a portion of a nucleotide sequence which encodes a human or murine CC to a portion of a nucleotide sequence which encodes a human or murine CC the ability to bind CD28 or CTLA4. The first peptide has an amino acid CC sequence that is identical or at least 50% identical with the CC extracellular domain of a human B7-2 peptide (AAB37085). The second CC peptide is especially an immunoglobulin constant region. This sequence CC comparison with the B7-2 sequence. The human B7-2 protein is an example CC are useful in various expression vectors to direct synthesis of the CC corresponding proteins or peptides in variety of hosts, particularly CC evharyotic cells, e.g. mammalian or insect cell culture. The nucleic acids are also useful for enhancing the immunogenicity of a mammalian CC cell, e.g. tumour cell (sarcoma) or an antigen presenting cell
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19-AUG-1993;
03-NOV-1993;
                                                                                                                                                                                                                                                                                                                                                                                                             Nucleic acids and fusion proteins of CTLA4/CD28 ligands, useful for enhancing or suppressing T cell-mediated immune responses, especially during tissue, skin or organ transplantation, or in graft-versus-host
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Immunomodulator; fusion protein; human; murine; mouse; lymphocyte; CD28; antigen; extracellular domain; CTLA4; immunoglobulin constant region; immunogeniotly; tumour; sarcoma; antigen presenting cell; macrophage; T cell-mediated immune response; transplantation; vaccination.
                                                                                                                                                                                                                                                                                                                                                           Disclosure; Column 87-90; 83pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (DAND )
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28-MAR-2001 (first entry)
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DB; AAC84051.
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93US-0109393.
93US-0147773.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (macrophage). The fusion proteins or peptides are useful for enhancing or suppressing T cell-mediated immune responses, e.g. in situations of tissue, skin or organ transplantation, or in graft-versus-host disease. The proteins are also useful for enhancing the efficacy of vaccination against a variety of pathogens, and may also be used to upregulate an immune response against a particular pathogen during an infection or against a tumour in a tumour-bearing host.
            Modified-site
                                                                                                                                                                                                                                                    Domain
                                                                                                                                                                                                                                                                                                                                                                                   Human B7 protein.
                                   Modified-site
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                                                                                                                                                                                                                                                                           Peptide
                                                                                                                                                                                                                                                                                                              Homo sapiens
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                                                         Modified-site
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          yknrtifditnnlsivilalrpsdegtyecvvlkyekdafkrehlaevtlsvkadfptps 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       al Similarity
216; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                 /note= "N-linked 226..228
                                                         /note=
211..2
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207..2
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139..236
                                                                                                                                                                             /note= "N-linked glycosylation site"
89..91
                                                                                                                                                                                                                             /label=
35..138
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                                                                                                                                                                                                                                                    /label= signal_peptide 35..242
                                                                                                       186..188
                                                                                                                                                                                                                                                                                       Location/Qualifiers
                      /note= "N-linked
                                                                                                                    /label=
                                                                                                                                                                 /note= "N-linked
                                                                                                                                                                                                               /label= "Ig
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"N-linked
                                                                    "N-linked
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Pred. No. 2
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                    glycosylation site"
                                           glycosylation site"
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                                                                                                                                                                 glycosylation
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2.6e-103;
                                                                                                                                                                                                                                                                                                                                               multiple sclerosis;
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site'
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                      protein. The cDNA encoding this sequence was isolated from a Burkitt lymphoma cell line cDNA library. Selection of cDNA clones was based on expression of B7, as detected by the anti-B7 monoclonal antibody. The human B7 cDNA was used in hybridisation analysis to isolate the murine B7 cDNA (see AAA61329). The B7 nucleic acid sequences may be used to generate transgenic, knock-out animals which, in turn, are useful in the development and screening of therapeutically useful reagents. The expressed B7 protein is useful for enhancing or blocking activated T cell mediated immune responses and immune fuseases (e.g. rheumatoid arthritis or multiple sclerosis), herpes simplex, influenza, the common cold and HIV. It is also useful in tissue and organ transplantation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Domain
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01-OCT-1990;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 1; Fig 4; 36pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        regulating T cell mediated immune responses or viral diseases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nadler LM, Freeman GJ, Freedman AS;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New polynucleotides encoding a B7 activation antigen, useful for
                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
              29-FEB-2000
                                       AAY44289;
                                                                 AAY44289 standard; Protein;
                                                                                                                                                                                       147
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                                                                                                                                                                                                              ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
                                                                                                                                                                                   isdfeiptsnirriicstsggfpephlswlengeelnainttvsqdpetelyavsskidf 206
                                                                                                                                 216;
                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                  288 AA;
                                                                                                                                                                                                                                                                                                                                                  100.0%;
ilarity 100.0%;
Conservative (
              (first entry)
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90US-0591300
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/label= Transmembrane_domain
270..288
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                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                Score 1149; DB 21;
Pred. No. 2.6e-103;
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29-JUL-1998;
24-SEP-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human B7.1 co-stimulatory molecule; antigen presenting cell; immune response; cell surface receptor; Major histocompatibility complex; MHC classII; proton motor force; mitochondrial membrane potential; mitochondrial metabolism; cancer; autoimmune disease; glycoprotein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present sequence is human B7.1 co-stimulatory molecule. This is a glycoprotein on the surface of antigen presenting cells. This is involved in stimulation of an immune response by its ability to interact with various immune cell surface receptors. The regulation of cell surface expression of MIC classII and co-stimulatory molecule B7 can be manipulated by regulating the intracellular dissipation of proton motor force which can be assessed in terms of mitochondrial membrane potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human B7.1 co-stimulatory molecule
                                                                                                                                                                                                                                                                                                                                                                                                     These methods can be used for regulating cell growth and division to control disease processes by manipulating mitochondrial metabolism and the expression of cell surface immune proteins. They can be used for treating diseases associated with excessive cellular division, aberrant differentiation, and premature cellular death, e.g. cancers, autoimmune diseases, neurodegenerative disorders etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  28-OCT-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           products for treating cancers, autoimmune diseases or neurodegenerative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Newell MK;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Disclosure; Page 115; 123pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Use of cell surface and membrane characteristics for developing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N-PSDB; AAZ29320
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                                                                                                                                                                                                                                                                                                                                                                           Sequence
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 207
                                   181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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                                                                                                                                                                                                            glshfcsgvihvtkevkevatlscghnvsveelagtriywqkekkmvltmmsgdmniwpe 86
                                                                                                                                      yknrtifditnnlsivilalrpsdegtyecvvlkyekdafkrehlaevtlsvkadfptps 146
                                                                                                                                                           YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
                                                                                      ISDFEIPTSNIRRIICSTSGGEPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
is dfeipts nir riic st sggfpephls wlenge elnaint tv sgdpetely avs skldf
                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                             288 AA;
                                                                                                                                                                                                                                                                                      Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           98US-0094519
98US-0101580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            98US-0082250.
                                                                                                                                                                                                                                                                                                     100.0%; Score 1149; DB 21; 100.0%; Pred. No. 2.6e-103;
                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                          Length 288;
                                                                                                                                                                                                                                                                                            0;
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0;

AAY54920

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This sequence represents the human B7.1 protein sequence.

The invention relates to an isolated nucleic acid construct (I)

comprising a region encoding an interleukin-12 (II-12) fusion protein

(comprising an II-12 p35 subunit, an III-12 p40 subunit and a linker

(comprising an II-12 p35 subunit, an III-12 p40 subunit and a linker

comprising the subunits) and a region encoding a B7 protein. (I)

may be used to produce II-12 fusion proteins according to standard

crecombinant DNA methodologies. The fusion proteins may be produced either

compression in a fermentation culture or in vivo as part of a gene therapy

compression in this case (I) is used to transform a patients cells, which

compression in the functional polypeptide to supplement the patients own.

compression in the protein protein protein protein protein this way may

compression in the patients of the suppression in this way may may

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compression in the patient of the suppression in the patient of the suppression in this way may

compression in the patient of the suppression in the suppression in the patient of the suppression in the patient of the suppression in the suppre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         such as leukaemia. Alternatively, the polypeptides may be used as antigens in the production of antibodies to IL-12 and to assay for agonists and antagonists of its activity. The antibodies and antagonists may be used to inhibit the activity of IL-12. (I) may also be used diagnostically as a probe which hybridizes to sequences encoding IL-12
                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                  and the antibodies may be used to detect the presence of IL-12 oplypeptides in samples. They may be used diagnostically to quantitate the expression of the polypeptide by patients and hence which subjects
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cervical tumours and melanomas) and in particular, tumours of the blood
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example; Fig 10; 73pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nucleic acid constructs encoding interleukin-12 fusion proteins useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Anderson RJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (UNLO ) ROYAL FREE HOSPITAL SCHOOL MED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         08-NOV-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Interleukin-12; IL-12; fusion protein; IL-12 p35 subunit; B7 protein;
IL-12 p40 subunit; gene therapy; tumour; leukaemia; B7.1 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               30-NOV-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    14-FEB-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAY54920 standard; Protein; 288 AA
                                                  61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAY54920;
87 yknrtifditnnlsivilalrpsdegtyecvvlkyekdafkrehlaevtlsvkadfptps 146
                                                                                                                            27
                                                                                                                                       1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLIMMSGDMNIWPE 60
                                                                                                                                                                                                                                                                                                                                                                                                                 be in need of restorative therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            treating leukemia and other cancers -
                                                                                                           glshfcsgvihvtkevkevatlscghnvsveelaqtriywqkekkmvltmmsgdmniwpe 86
                                                                                                                                                                                                                                  216;
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                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                       288 AA;
                                    Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   96US-0751767.
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                                                                                                                                                                                                                                                Score 1149; DB 21; Length 288; Pred. No. 2.6e-103;
                                                                                                                                                                                                                               Mismatches
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                                       composition comprises an allogeneic tumour cell selected from $M620 cell, COIC 205 cell and $M403 cell, and a physiological carrier. The allogeneic cell stimulates an immune response to an autologous tumour cell in the patient. The composition is useful for stimulating an immune response in a patient having an adenocarcinoma. e.g. colon, breast, lung or prostate source of antigen that can be administered to a variety of patients, in contrast to using autologous tumour cells, which must be isolated from each individual patient. The allogeneic cells are suitable as a cancer vaccine and can stimulate an immune response against autologous tumour cells of a cancer patient. The present sequence represents the amino acid sequence of colorectal tumour antigen CD80 used in the method of the
                                                                                                                                                                                                                                                                                                                                                                  New composition comprising an allogeneic tumour cell, useful for
stimulating an immune response in a patient having an adenocarcinoma,
especially useful for treating colorectal, breast, lung or prostate
                                                                                                                                                                                                                                                                           The invention relates to a composition for stimulating an immune response
                                                                                                                                                                                                                                                                                                                     Example 2; Page 130-131; 131pp; English.
                                                                                                                                                                                                                                                               in a patient having an adenocarcinoma or colorectal cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    N-PSDB; AAS11426.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (KIMM-) KIMMEL CANCER CENT SIDNEY. (IMMU-) IMMUNE RESPONSE CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27-JAN-2000; 2000US-0178498.
28-FEB-2000; 2000US-0185335.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Colorectal cancer; immunostimulant; cytostatic; immune response; addenocarcinoma; allogeneic tumour cell; SW620 cell; COLO 205 cell; SW403 cell; colon; breast; lung; prostate; cancer; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26-JAN-2001; 2001WO-US02731
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tumour antigen CD80.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Shawler DL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bartholomew RM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Carlo DJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gold DP;
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Best Local Similarity Matches 216; Conserv

Conservative

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Indels Length 288;

0;

Gaps

0

100.0%;

Score 1149; DB 22; Pred. No. 2.6e-103; Mismatches

Query Match

Sequence

288 AA;

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RESULT 1
AAB19959
ID AAB1
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                                                                                                                                                                                                                                                                                                                     Peptide
                                                                                                                                                                                                                                                                                                                                             Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                           metastasis; antitumour; therapy.
                                                                                                                                                                                                                                                                                                                                                                   Human; B7; B lymphocyte; antigen; T cell costimulatory molecule;
CD28; CTLA4; tumour; melanoma; neuroblastoma; leukaemia; carcinoma;
                                                                                                                                                                                                                                                                                                                                                                                            Human B lymphocyte antigen B7
                                                                                                                                                                                                                                                                                                                                                                                                            19-MAR-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                             AAB19959 standard; Protein; 288 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    93US-0147772
                      98US-0159135
                                                                                                                               /note= ",
207..209
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53..55
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139..23
                                                                                                                                                                                 /note= "Asn
89..91
                                                                                                                                                186..188
                                                                                                                                                                98..100
                                                                                                                                                                                                                                                                                                    /label= Signal_peptide 35..288
                                                                                                       /note=
                                                                                                                                                                     /note= "Asn is N-glycosylated"
                                                                                                                                                                                                                                                   270..288
                                                                                                                                                                                                                                                                    243..269
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                                                                                               . 228
                                                                                     "Asn is N-glycosylated"
                                                                                                       "Asn
                                                                                                                                                      "Asn is N-glycosylated"
                                                                                                                                                                                                                                                                         "extracellular domain"
                                                                                                                      "Asn is N-glycosylated"
                                                                                                                                      "Asn is N-glycosylated"
                                                                                                                                                                                                        "immunoglobulin C-set domain"
                                                                                                                                                                                                                         "immunoglobulin V-set domain"
                                                                                                                                                                                                                                          "intracellular domain"
                                                                                                                                                                                                                                                          "transmembrane domain"
                                                                      "Asn is
                                                                                                      is N-glycosylated"
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RESULT 11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CC molecule, by using an agent which induces or increases expression
CC of the T cell costimulatory molecule on the tumour cell surface, or
CC by coupling the T cell costimulatory molecule to the tumour cell
CC surface. Tumour cells further modified to express major
CC or in which expression of an MFC associated protein, the invariant
CC cor in which expression of an MFC associated protein, the invariant
CC chain, is inhibited are also disclosed. The modified tumour cells
CC are used to treat a patient with a tumour, preventing or inhibiting
CC metastatic spread or tumour recurrence. The tumour may be a
CC metastatic spread or tumour recurrence. The tumour may be a
CC metastatic spread or tumour by modification of tumour, and a
CC method for treating a tumour by modification of tumour cells in vivo
CC are also disclosed. The treatment methods increase the immune period to the tumour cell in vivo. The antitumour T cell mediated immune
CC unmodified tumour cells from which the modified tumour cells and the
CC modified tumour cells is not dependent upon expression of a
CC costimulatory molecule on the tumour cells.
                                                                                                                                                                                                                                                                                                                                                                                                                    Matches 216; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cell costimulatory molecule that binds to CD28 and CTiA4. Tumour cells modified to express a T cell costimulatory molecule, especially B7, are disclosed. The tumour cells are modified by transfection with a nucleic acid encoding the T cell costimulatory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Modifying tumor cell for treating tumors, reducing metastatic spread, inhibiting recurrence of tumor and increasing immunogenicity, involves transfecting tumor cells with a nucleic acid encoding B7 molecule
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The present sequence is that of human lymphocyte antigen B7, a T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 4; Column 31-34; 24pp; English.
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(DAND ) DANA FARBER CANCER INST INC
(HARD ) HARVARD COLLEGE.
                                                                                                                                      181
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                                                                                                 207
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                                                                                                                                                                                                                                                                                                                                                  1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEBLAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
                                                                                             nmttnhsfmclikyghlrvnqtfnwnttkqehfpdn
                                                                                                                                  NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
                                                                                                                                                                                            ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
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                                                                                                                                                                                                                                                                                                                               glshfcsgvihvtkevkevatlscghnvsveelagtriywqkekkmvltmmsgdmniwpe 86
                                                                                                                                                                          isdfeiptsnirriicstsggfpephlswlengeelnainttvsqdpetelyavsskldf
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    288 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 288;
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02-JUN-1998

(first entry)

AAW41415 standard; Protein; 473

Human B7.1-murine A5B7 F(ab')2 fusion protein

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RESULT 1
AAW90208
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XX
AC AAWS
DT 10-N
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Best Local
                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                      This sequence is the human B7.1-murine A5B7 F(ab')2 fusion protein (AB7), and is an example of the antibody of the invention. The antibody is an anti-CEA (carcinoembryonic antipen) antibody (preferably 806.077 Ab). Host cells or transgenic organisms transformed with DNA encoding the antibody, are used to make the antibody or conjugate. The conjugate is used in a medicament suitable for intravenous administration. The conjugate can be used for cancer therapy, selectively killing tumour cells. The antibody can be used for in vivo or in vitro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chimeric -
Chimeric -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Anti-carcinoembryonic antigen antibody 806.077 Ab diagnosis and therapy of cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    14-FEB-1997;
04-MAY-1996;
                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                diagnosis of cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Reference Example 3; Page 190-193; 208pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Copley CG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (ZENE ) ZENECA LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        29-APR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Anti-CEA antibody;
            hB7.1glu-glu soluble fusion protein
                                                                                     AAW90208 standard; Protein;
                                   10-MAY-1999
                                                                                                                                                   207
                                                                                                                                                                         181
                                                                                                                                                                                                  147
                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                  87
                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                27
                                                                                                                                                                                                                                                                                                                                                         Local
                                                                                                              12
                                                                                                                                                                                                                                                                                                           1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1997-558987/51.
                                                                                                                                               NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
                                                                                                                                                                                              glshfcsgvihvtkevkevatlscghnvsveelagtriywqkekkmvltmmsgdmniwpe 86
                                                                                                                                                                                                                                                YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 diagnosis;
                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mus sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                          473 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Edge MD,
                                                                                                                                                                                                                                                                                                                                               Conservative
                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    97GB-0003103
96GB-0009405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        97WO-GB01165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 complementarity determining region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               carcinoembryonic antigen; 806.077 Ab; cancer therapy;
                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 1149; DB 18; 100.0%; Pred. No. 5.3e-103;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Emery SC
                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                      Length 473;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           used
                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                   146
                                                                                                                                                                                                                                                                                                                                                0;
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181

NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216

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                                                                                                                                                                   QΥ
                                                                                                                                                                                                                                                                                                              This 29 kDa soluble fusion protein, termed hB7.1glu-glu, is composed of human co-stimulatory molecule B7.1 extracellular domain fused C-terminally to a synthetic Glu-glu epitope (see AAW90197). It was produced from total RNA of Epstein-Barr virus-transformed human spleen cells by RT-PCR using primers MR67 and MR145 (see AAX01601). The fusion protein has been produced in Sf9 Spodoptera CAX016010 insect cells using a baculovirus expression system. The invention relates to molecules such as diabodies, trivalent and tetravalent antibodies and small antigen binding peptides which can cross-link, or cross-react with, B7.1 and B7.2 expressed on cross-link or cross-react with, B7.1 and B7.2 expressed on antigen-specific T cell activation. Methods to produce such antigen-specific T cell activation are used to treat or prevent cliseases of the immune system, in particular graft rejection, graft versus host disease, allergy and autoimmune diseases (claimed).
                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B7 binding molecule; costimulatory molecule; B7.1; CD80; CD86; T cell activation; inhibitor; graft versus host dittransplant rejection; allograft rejection; autoimmune diallergy; therapy; human; hB7.1glu-glu.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chimeric -
                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 3.1.2; Fig 4; 182pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New molecules which bind {\rm B7.1} and {\rm B7.2} - useful to immune diseases including allograft rejection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1999-105615/09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (INNO-) INNOGENETICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20-JUN-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO9858965-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Peptide
 147
                                                                                                                                                                                                                       Local Similarity
                                                                   87
                                                                                                    61
                                                                                                                                      27
                                                                                                                                glshfcsgvihvtkevkevatlscghnvsveelagtriywqkekkmvltmmsgdmniwpe 86
                                                                                                                                                  GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKWVLTMMSGDMNIWPE
                                                                                                    YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
is dfeipts nirriic st sggfpephls wlenge elnaint tv sqdpetely avs skldf
                                 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
                                                                  yknrtifditnnlsivilalrpsdegtyecvvlkyekdafkrehlaevtlsvkadfptps 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      synthetic
                                                                                                                                                                                                                                                                                        251 AA;
                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       97EP-0870092
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      98WO-EP03791.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note= "human B7.1 (mature protein) extracellular domain"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note= "potential eukaryotic secretory signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ¥
                                                                                                                                                                                                                      99.7%;
99.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Lorre K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Glu-Glu detection/purification tag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    peptide"
                                                                                                                                                                                                                      Score 1146; DB 20;
Pred. No. 4.2e-103;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sablon
                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      versus host disease; autoimmune disease;
                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      prevent and treat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B7.2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        composed
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RESULT 1
AAW86004
ID AAW8
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                                                                                                                                                                                                                                                                               RESULT 13
AAW38415
                                                             밁
                                                                                                                                                                                                                             Matches 215;
                                                                                                                                                                                                                                                                                                                                                                New xanthene derivatives useful as immunomodulators - e.g. methyl 2-(carboxymethylsulphinyl)-5,7-dichloro-3,8-dihydroxy-6-methyl-9-oxo-9H-xanthene-1-carboxylate.
        AAW86004 standard;
                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 02-OCT-1996;
05-MAR-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Screening; inhibitor; enhancer; binding; CD28; B7-1; soluble B7-1-Ig; immunoglobulin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAW38415 standard;
                                                                                                                                                                                                                                                                                                     6
                                                                                                                                                                                                                                                                                                            The present sequence was used in the development of a novel for screening for compounds that inhibit or enhance binding
                                                                                                                                                                                                                                                                                                                                           Disclosure; Fig 6 and 7; 117pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1997-450803/42.
N-PSDB; AAT96359.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               04-MAR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17-SEP-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EP795554-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Soluble B7-1-Ig.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 08-APR-1998 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAW38415;
                                                                                                     147
                                                                                                                                                                                                                                                                                                                                                                                                                                                            (TAKE ) TAKEDA CHEM IND LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                207
                                                             207
                                                                                 181
                                                                                                                         121
                                                                                                                                                                                                                                        Local Similarity
                                                                                                                                             87
                                                                                                                                                                61
                                                                                                                                                                                     27
                                                                                                                                                                                               1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKWVLTMMSGDMNIWPE
                                                                                                                                                                                                                                                                                                     B7-1
                                                                                                                                                              YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             nmttnhsfmclikyghlrvnqtfnwnttkqehfpdh 242
                                                                                NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
                                                                                                             ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
                                                                                                                                            isdfeiptsnirriicstsggfpephlswlengeelnainttvsqdpetelyavsskldf
                                                                                                                                                                                   glshfcsgvihvtkevkevatlscghnvsveelaqtriywqkekkmvltmmsgdmniwpe
                                                                                                                                                                                                                                                                               475
                                                                                                                                                                                                                                                                                                                                                                                                                                       Hida
                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                               A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                96JP-0262085.
96JP-0047795.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               97EP-0301438
                                                                                                                                                                                                                                                                                                                                                                                                                                         H
          Protein; 488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Protein;
                                                                                                                                                                                                                                     99.6%; Score 1144; DB 18; 99.5%; Pred. No. 1.6e-102;
                                                                                                                                                                                                                                                                                                                                                                                                                                         Kurokawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           475
                                                                                                                                                                                                                             1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A
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                                                                                                                                                                                                                             0,
                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                             method
of CD28
                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                           Gaps
                                                                                                     206
                                                                                                                                            146
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                                                                                                                                                                                                        60
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YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS

yknrtifditnnlsivilalrpsdegtyecvvlkyekdafkrehlaevtlsvkadfptps

Matches Best

215;

Conservative

0;

Mismatches

0;

Indels

0, Gaps

0;

86 60 Local Similarity

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87 61 27

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This is the amino acid sequence of B7-1.574.1, a fusion protein comprising the extracellular domain (amino acids 1-215) of human co-stimulatory molecule B7-1 joined via a flexible peptide linker to an scFv (see AAW86002) derived from murine 574 monoclonal antibody. B7-1.574.1 cDNA (see AAW80292) can be inserted into vector pCI to allow expression of the fusion protein in mammalian cells. The trophoblast cell surface antigen defined by 574 is expressed at high levels on the cells of a wide variety of human tumours. The invention relates to a vector comprising a nucleotide sequence coding for a tumour interacting protein (TIP) and optionally a nucleotide sequence of interest (NOI) which encodes a protein of interest (POI), the vector being capable of delivering the NOI cand/or POI to the tumour recognised by the TIP. Delivery can be in vivo or ex vivo. The vector is used to treat cancer, and may also used as a gene delivery system for introducing at least 1 gene encoding a TIP (preferably a tumour binding protein) into a haematopoietic cell lineage. B7-1 is expected to bind specifically to CD28 and CTLA-4 present on human T-cells.
               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      04-JUL-1997;
04-JUN-1997;
20-JUN-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                New vector encoding a tumour interacting protein for treating cancer contains a desired nucleotide sequence and/or protein which recognises tumours, and is used as a gene delivery system to treat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tumour interacting protein; cancer; gene therapy; vector; 5T4 antigen; monoclonal antibody; single chain antibody; mouse; human; B7-1; co-stimulatory molecule.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Chimeric -
                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; AAV80292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bebbington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        04-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Chimeric - synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human B7-1.5T4.1 protein fusion,
                                                                                                                                                                                                                                                                                                                                                                                                                   Example 5; Fig 2; 82pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Myers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10-DEC-1998.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mus sp.
Homo sapiens.
                                                                   488 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
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97GB-0011579.
97GB-0013150.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        98WO-GB01627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Carroll MW, Ellard FM,
 99.5%;
Score 1143; DB 20; Pred. No. 2.1e-102;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         specific for human 5T4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kingsman
               Length 488;
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RESULT 1
AAB83836
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                              The specification describes the use of a single chain antibody (ScFv), CC which is capable of recognizing a disease associated molecule in the manufacture of a medicament for the prevention and treatment of a CC disease condition. The ScFv antibody is useful in the manufacture of CC a medicament, for affecting a disease in vivo, for preparing a CC pharmaceutical composition, for in vivo imaging and/or for adjuvant CC treatment of a disease. The ScFv antibody is also useful for CC treating inflammatory diseases including arthritis, hypersensitivity, CC autoimmune diseases, cancers, central nervous system disorders CC including Parkinson's disease, periodontal diseases, cardiopulmonary CC diseases, cardiovascular diseases, gastrointestinal disorders, CC infections, diabetes, Helicobacter related diseases, and other immune CC disorders. The present sequence represents a B7-1.5T4.1 fusion protein. This comprises the N-terminus of the ST4 ScFv is fused after amino acid CC 215 of human B7-1.
                                                                                                                                                                                                                                                                                                                                        Use of single chain antibody capable of recognizing a disease associated molecule for manufacturing a medicament for preventing and/or treating a disease condition associated with disease associated
Sequence
                                                                                                                                                                                                                                                                                              Claim
                                                                                                                                                                                                                                                                                                                              molecule
                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2001-343805/36.
N-PSDB; AAF89730.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18-NOV-1999; 99WO-GB03859.
15-FEB-2000; 2000GB-0003527.
02-MAR-2000; 2000GB-0005071.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            hypersensitivity; autoimmune disease; central nervous system disorder; Parkinson's disease; periodontal disease; cardiopulmonary disease; cardiovascular disease; gastrointestinal disorder; infection; diabetes; Helicobacter-related disease; immune disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAB83836 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Myers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Kingsman A, Kingsman SM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13-NOV-2000; 2000WO-GB04317.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Single chain antibody; ScFv; inflammatory disease; arthritis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAB83836;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (OXFO-) OXFORD BIOMEDICA UK LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HOMO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Amino acid sequence of a B7-1.5T4.1 fusion protein.
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                                                      ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF
                                                                                        yknrtifditnnlsivilalrpsdegtyecvvlKyekdafKrehlaevtlsvkadfptps
                                                                                                                                    nmttnhsfmclikyghlrvnqtfnwnttkqehfpd
                       NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPD
                                                                                                    YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS
                                                                                                                                                            GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE
                                             isdfeiptsnirriicstsggfpephlswlengeelnainttvsqdpetelyavsskldf
                                                                                                                                                                                    Conservative
                                                                                                                                                                                            99.5%;
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                                                                                                                                                                                            Score 1143; DB 22;
Pred. No. 2.1e-102;
                                                                                                                                                                                    Mismatches
  241
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                                                                                                                                                                                                        Length 488;
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Search completed: June 18, 2002, 11:44:32 Job time: 85 sec

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Minimum DB seq length: 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Scoring table:
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Listing first 45 summaries
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Copyright (c) 1993 - 2000 Compugen Ltd.
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

ID US-08-459-766B-8

2 actuation 2	3 US-U/-391-300A-	2 4	99.4	1138
Sequence	3 US-07-591-30	288	99.4	1142
Sequence	22 US-09-845-899A	492		1143
Sequence	16 US-09-	492	99.5	1143
Sequence	1 PCT-US97-12599-	492		1143
Sequence	18 US-09-468-029-	251	•	1146
Sequence	23 US-09-910-059-1	473	•	1149
Sequence	24 US-10-041-319-	288		1149
Sequence	23 US-09-966-148-2	288		1149
Sequence	23 US-09-910-174	288	•	1149
Sequence	22 US-09-896-738	288	•	1149
Sequence	22 US-09-868-609	288		1149
Sequence	22 US-09-837-867	288		1149
Sequence	22 US-09-837-867-1	288		1149
Sequence	21 US-09-772-102-	288	•	1149
Sequence	21 US-09-716-928-	288	•	1149
Sequence	21 US-09-716-92	288	100.0	1149
actualizas optionbos	21 115-09-007	200	•	1149
Sequence	-135 HG-03-667-135-	200	100.0	1149
Sequence	20 US-09-620	288	•	1149
Sequence	19 US-09-565	288	•	1149
GENERAL	19 US-09-522	288	•	1149
Sequence	18 US-09-425	288	•	1149
Sequence	18 US-09-425	288	•	1149
equenc	17 US-09-368	288	•	1149
equenc	17 US-09-350	288	•	1149
Sequence	16 US-09-277	288	100.0	1149
Sequence	16 US-09-206	288	•	1149
	9 us-08-592-	288	•	1149
Sequence 2	8 US-08-453-386	288	100.0	1149
	8 US-08-453-386-2	288	•	1149
	8 US-08-435-816A-	288	•	4
equence	6 US-08-280	288	100.0	1149
sequence	C C C F # 7 7 7 6		•	,

ALIGNMENTS

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US-08-459-766B-8

; Sequence 8, Application US/08459766B
; Sequence 8, Application US/08459766B
; GENERAL INFORMATION:
APPLICANT: Linsley, Peter S.
APPLICANT: Ledbetter, Jeffrey A.
APPLICANT: Ledbetter, Jeffrey A.
APPLICANT: Ledbetter, Jeffrey A.
APPLICANT: Damle, Nitin K.
APPLICANT: USAGE, WILLIAM
CURRENT APPLICATION NUMBER: US/08/459,766B
CURRENT APPLICATION NUMBER: 07/498,949
PRIOR APPLICATION NUMBER: 07/498,949
PRIOR APPLICATION NUMBER: 07/547,980
PRIOR APPLICATION NUMBER: 07/547,980
PRIOR APPLICATION NUMBER: 07/722,101
PRIOR APPLICATION NUMBER: 07/722,101
PRIOR APPLICATION NUMBER: 08/219,200
PRIOR FILING DATE: 1994-03-29
NUMBER: OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 8
LENGTH: 216
TYPE: PRT
ORGANISM: Homo sapiens
PUBLICATION INFORMATION:
AUTHORS: Freedman, Gordon J.
AUTHORS: Freedman, Gordon J.
AUTHORS: Segil, Jeffrey M.
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TYPE: PRT
TYPE: PRT
ORGANISM: Homo sapiens
PUBLICATION INFORMATION:
AUTHORS: Freedman, Gordon J.
AUTHORS: Freedman, Arnold S.
AUTHORS: Seqil, Jeffrey M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION NUMBER: US/09/569,164A
CURRENT FILING DATE: 2000-05-11
PRIOR APPLICATION NUMBER: 07/547,980
PRIOR FILING DATE: 1990-07-02
PRIOR APPLICATION NUMBER: 07/722,101
PRIOR FILING DATE: 1991-06-27
PRIOR PRIOR APPLICATION NUMBER: 08/219,200
PRIOR APPLICATION NUMBER: 08/219,200
PRIOR FILING DATE: 1995-06-02
PRIOR APPLICATION NUMBER: 08/459,766
PRIOR ETLING DATE: 1995-06-02
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SEQ ID NO 8
LENGTH: 216
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILE REFERENCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                       AUTHORS: Whitman, James F.
AUTHORS: Nadler, Lee M.
TITLE: B7, A NEW MEMEBER OF THE IG
TITLE: EXPRESSION ON ACTIVATED AND
                                                                                                                                                                                                             AUTHORS: Freedman, A
AUTHORS: Segil, Jeff
AUTHORS: Lee, Grace
                    ISSUE: 8
PAGES: 2714-2722
DATE: 1989-10-15
                                                                                   JOURNAL: J.
VOLUME: 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PAGES: 2714-2722
DATE: 1989-10-15
RELEVANT RESIDUES: 1 TO 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS: Lee, Grace
AUTHORS: Whitman, James F.
AUTHORS: Whitman, James F.
TITLE: B7, A NEW MEMBER OF THE 19 SUPERFAMILY WITH UNIQUE
TITLE: EXPRESSION ON ACTIVATED AND NEOPLASTIC B CELLS
RELEVANT RESIDUES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL: J. Immunol. VOLUME: 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181 NMTTNHSFMCLIKYGHLRVNQTENWNTTKQEHFPDN 216
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                                                                                                       Immunol.
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                                                                                                                            SUPERFAMILY WITH UNIQUE NEOPLASTIC B CELLS
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              Sequence 12, Application PC/TUS0106769
GENERAL INFORMATION:
APPLICANT: Mayo Medical Ventures
TITLE OF INVENTION: hB7-H2, A NOVEL CO-STIMULATORY MOLECULE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: 60/220,991
PRIOR FILING DATE: 2000-07-27
NUMBER OF SEQ ID NOS: 23
SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 21
LENGTH: 226
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 21, Application PC/TUS0141430
GENERAL INFORMATION:
APPLICANT: Mayo Foundation for Medical Education and Research
TITLE OF INVENTION: B7-H3 AND B7-H4, NOVEL IMMUNOREGULATORY
TITLE OF INVENTION: MOLECULES
FILE REFERENCE: 07039-219W01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 216;
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Best Local Similarity
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Best Local Similarity
FILE REFERENCE: 07039-202WO1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: PCT/US01/41430 CURRENT FILING DATE: 2001-07-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Homo sapiens
                                                                                                                                                                                                         191
                                                                                                                                                                                                                                                 181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
                                                                                                                                                                                                                                                                                                                    121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
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                                                                                                                                                                                                                                                                                            ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 190
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%; Score 1149; DB 1; 100.0%; Pred. No. 6.8e-112; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Score 1149; DB 19; 100.0%; Pred. No. 6.4e-112; tive 0; Mismatches 0;
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207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242

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; TYPE: PRT
; ORGANISM: Homo sapiens
PCT-US01-06769-12
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PCT-US01-41430-15
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GENERAL INFORMATION:
GENERAL INFORMATION:

APPLICANT: Mayo Foundation for Medical Education and Research
TITLE OF INVENTION: B7-H3 AND B7-H4, NOVEL IMMUNOREGULATORY
TITLE OF INVENTION: MOLECULES
FILE REFERENCE: 07039-219MO1
CURRENT APPLICATION NUMBER: PCT/US01/41430
CURRENT APPLICATION NUMBER: 5001-07-26
PRIOR APPLICATION NUMBER: 60/220,991
PRIOR FILING DATE: 2000-07-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQ ID NOS: 13
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 12
                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQ ID NOS: 23
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 15
LENGTH: 288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 100.0%; Score 1149; DB 1; Best Local Similarity 100.0%; Pred. No. 7.8e-112;
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Best Local S
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CURRENT FILING DATE: 2001-03-02
PRIOR APPLICATION NUMBER: 60/186,519
PRIOR FILING DATE: 2000-03-02
                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
                                                     147
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                                                                                                                                                                                                                                                                   Local Similarity
nes 216; Conservat
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                                                                                                                                               YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
                                                                                                                           YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146
                                                                                                                                                                                                                                                                       100.0%; Score 1149; DB 1; ilarity 100.0%; Pred. No. 9.7e-112; Conservative 0; Mismatches 0;
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RESULT 6
US-07-751-306C-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: (203) 259-284 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: FREEMAN, GORDON
APPLICANT: FREEDMAN, ARNOLLIA
APPLICANT: NADLER, LEE M.
TITLE OF INVENTION: DNA End
TITLE OF INVENTION: Of The
TITLE OF INVENTION: ACTIVAL
NUMBER OF SEQUENCES: 4
                                                                                                                                                                                                                       FEATURE:
NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US 07/591,300
FILING DATE: 01-0CT-1990
ATTORNEY/AGENT INFORMATION:
NAME: HART, JULIA D.
REGISTRATION NUMBER: 33132
REGEREPARY JONES NUMBER: 33132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: protein
DESCRIPTION: B cell activation antigen; natural ligand
DESCRIPTION: for CD28 T cell surface antigen; transmem
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE/DOCKET NUMBER: DF
TELECOMMUNICATION INFORMATION:
TELEPHONE: (203) 255-8900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: WordPerfect 5.0 CURRENT APPLICATION DATA:
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                                                                                                                     FEATURE:
NAME/KEY: intracellular domain LOCATION: 236 to 254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                  FEATURE:
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CITY: I
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FILING DATE: 19910828
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COMPUTER: IBM Per
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY: UZIP: 02115
                                                                                                                                                                                 LOCATION: 209 to 235 IDENTIFICATION METHOD: IDENTIFICATION METHOD:
                                                                                                                                                                                                                                                                                                    NAME/KEY: extracellula LOCATION: 1 to 208 IDENTIFICATION METHOD:
                                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION: hydrophobic
                                                                                                                                                                                                                                                                                                                                                                                                         IDENTIFICATION METHOD: amino terminal sequencing IDENTIFICATION METHOD: soluble protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: signal sequence LOCATION: -34 to -1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY:
                   NAME/KEY: N-linked glycosylation LOCATION: 19 to 21
                                                                                                  IDENTIFICATION METHOD:
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                                                                                 IDENTIFICATION METHOD:
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IDENTIFICATION METHOD:
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AMINO ACID
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FREEMAN, GORDON J.
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                                                                                                                                                                                                                                                                                                                                               extracellular domain
                                                                                                                                                                                                                                             transmembrane domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        259-2846
ID NO: 2:
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Of The IgG Superfamily With Unique Expression
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similarity with known
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                                                                                                    Matches 216;
                                                                                                                  Query Match
Best Local
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61 YKNRTIFDITNMLSIVILALÅPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
                                                                                                                                                                                                                             ISSUE:
PAGES:
                                                                                                                                                                                                                                                                          AUTHORS: WHITMAN, JAMES F.
AUTHORS: NADLER, LEE M.
TITLE: B7, A New Member Of The Ig Superfamily With
TITLE: Unique Expression on Activated And Neoplastic B Cells
JOURNAL: The Journal of Immunology
                                      27
                                                                                                                   Local Similarity
                                                                                                                                                                                               DATE: 15-OCT-1989
RELEVANT RESIDUES IN SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: Ig V-set domain LOCATION: 1 to 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: N-linked glycosylation LOCATION: 198 to 200 IDENTIFICATION METHOD: similarity IDENTIFICATION METHOD: sequence
                               AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                             AUTHORS:
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                                                                                                                                                                                                                                  2714-2722
                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                           SEGIL, JEFFREY M.
LEE, GRACE
                                                                                                                                                                                                                                                                                                                                                                                                        FREEMAN, GORDON J.
                                                                                                                                                                                                                                                                                                                                                                                           FREEDMAN,
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152 to 154
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55 to 57
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177 to 179
                                                                                                             100.0%;
                                                                                                                                                                                                                                                                                                                                                                                           ARNOLD S.
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                                                                                                 0;
                                                                                               Score 1149; DB 3;
Pred. No. 9.7e-112;
); Mismatches 0;
                                                                                                                                                                                                2: From -26 to
                                                                                                                             Length
                                                                                                 Indels
                                                                                                                                 288;
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RESULT 7
US-08-109-393A-29
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APPLICANT: Nadler, Lee M.
APPLICANT: Gray, Gary S.
APPLICANT: Gray, Gary S.
TITLE OF INVENTION: Uses Therefor
TITLE OF SPOUENCES: 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 29, Application US/08109393A GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/101,624
PILING DATE: 26-7011093
ATTORNEY/AGENT INFORMATION:
NAME: Mandragouras, Amy E.
REGISTRATION NUMBER: 36,207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER: RP
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 29:
                                                                                      FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
LENGTH: 288 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                      FEATURE:
                                                                                                                                                                                                                                                                                                             FEATURE:
                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE:
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NAME/KEY: transmembrane domain
LOCATION: 209 to 235
IDENTIFICATION METHOD: similar:
IDENTIFICATION METHOD: sequence
                                                                                                                                                                                                                                                                                                                          DISCULE TYPE: protein

DESCRIPTION: B cell activation antigen; natural ligand

DESCRIPTION: for CD28 T cell surface antigen; transmembrane protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206
                                                                                                                                                                                                                        IDENTIFICATION METHOD: amino terminal sequencing IDENTIFICATION METHOD: soluble protein
                                                                                                                                                                                                                                                                    NAME/KEY: signal sequence LOCATION: -34 to -1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE: 1:
CLASSIFICATION:
                                                                                                     IDENTIFICATION METHOD:
                                                                                                                                                NAME/KEY:
LOCATION:
                                                                                                                                                                                                           OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET:
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                                                                                                                           IDENTIFICATION METHOD:
                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                                                                                                             288 amino acids
                                                                                                                                                                 extracellular domain
                                                                                                                                                1 to 208
                                                                                                                                                                                                                                                                                                                                                                                         linear
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19-AUG-1993
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                                                                                                                                                                                                         hydrophobic
  similarity with known sequence
                                                                                                   similarity with known sequence
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; DATE: 15-OCT-1989
; RELEVANT RESIDUES IN SEQ
US-08-109-393A-29
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NAME/KEY: N-linked glycosylation
LOCATION: 177 to 179
LOCATION: 177 to 179
                                                                                                                                                                                                                                                                                NAME/KEY: IG C-set domain LOCATION: 105 to 202 IDENTIFICATION METHOD: SITUALITY OF THE PUBLICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE
                                                                                                          AUTHORS: WHITMAN, JAMES F.
AUTHORS: NADLER, LEE M.
TITLE: B7, A New Member Of The Ig Superfamily With
TITLE: Unique Expression On Activated And Neoplast:
JOURNAL: The Journal of Immunology
                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: IG V-set domain LOCATION: 1 to 104 IDENTIFICATION METHOD: Si
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: N-linked glycosylation LOCATION: 173 to 175 IDENTIFICATION METHOD: similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: N-linked glycosylation LOCATION 152 to 154 IDENTIFICATION METHOD: similarity IDENTIFICATION METHOD: sequence
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                                                       2714-2722
                                                                                              143
                                                                                                                                                                                                         FREEMAN, GORDON J. FREEDMAN, ARNOLD S. SEGIL, JEFFREY M. LEE, GRACE
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                                                                  Query Match
Best Local Similarity
Matches 216; Conserv
                                                                                                                                                                                                                                  TELEFAX: (617) 227-594
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
APPLICANT:
APPLICANT:
TITLE OF IN
                                                                                                                                                                                                                                                                                  NAME: Mandragouras, Amy E.
REGISTARION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: RP
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/101,624;
FILING DATE: 26-JUL-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Gray, Gary S. TITLE OF INVENTION: TUMO NUMBER OF SEQUENCES: 8
                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: 08/109,393;
APPLICATION NUMBER: 19-AUG-1993
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
                                                                                                                                                                  TOPOLOGY: 11 MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: Boston
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STATE:
                                                                                                                                                                                                                   LENGTH:
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                                 1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02109
                                                                                                                                                                                                   amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60 State Street, Suite 510
                                                                                                                                                                                                                   288 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           USA
                                                                                                                                                                                                                                                                     (617)
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                                                                  Conservative
                                                                                                                                                                                     linear
                                                                                                                                                                  protein
                                                                                                                                                                                                                                                                     227-5941
                                                                                100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TUMOR CELLS MODIFIED TO EXPRESS B7-2 AND B7-3 WITH INCREASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US/08/147,773
                                                                  0;
                                                                                                                                                                                                                                                                                                                      RPI-008
                                                                  Score 1149; DB 5;
Pred. No. 9.7e-112;
Nismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Version #1.25
                                                                                                 Length 288;
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                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: (617) 227-7400
TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 29
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APPLICANT: 1
APPLICANT: (
APPLICANT: (
                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION NUMBER: 08/101,624; 08/109,393; 08/147,773
APPLICATION NUMBER: 08/101,624; 08/109,393; 08/147,773
FILING DATE: 26-JUL-1993; 19-AUG-1993; 03-NOV-1993
ATTORNEY/AGENT INFORMATION:
NAME: Mandragouras, Amy E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: RPI-004CP2
TELECOMMUNICATION INFORMATION:
TELECHONE: (617),227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/280,757
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: Novel CTLA4/CITITLE OF INVENTION: Uses Therefor NUMBER OF SEQUENCES: 31
                                                                                                                                                                                                                                                                                                     TOPOLOGY: linear MOLECULE TYPE: prof
                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CITY: Boston
STATE: Massac
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            207
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                                                                                         NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                           LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            87
                                                                                                                                                   OTHER INFORMATION:
                                                                                                                                                                     IDENTIFICATION METHOD: amino terminal sequencing of IDENTIFICATION METHOD: soluble protein
                                                                                                                                                                                                                         NAME/KEY: signal sequence
                                                                                                                                                                                                                                                                     DESCRIPTION:
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                                                     IDENTIFICATION METHOD: IDENTIFICATION METHOD:
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LOCATION:
                   NAME/KEY:
                                                                                                                                                                                                                                                                                       DESCRIPTION:
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amino acid
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Greenfield, Edward
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                                                                                         extracellular domain 1 to 208
transmembrane domain 209, to 235 '
                                                                                                                                                                                                                                                         protein
B cell activation antigen; natural ligand
for CD28 T cell surface antigen; transmembrane protein
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                                                                                                                                                 NOD: soluble protein hydrophobic
                                                     sequence
                                                                       similarity with known
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PAGES: 2714-2722
DATE: 15-OCT-1989
RELEVANT RESIDUES:
US-08-280-757-29
                                                                                                                                                                                                                                                 NAME/KEY: IG C-set domain
LOCATION: 105 to 202
IDENTIFICATION METHOD: simila
IDENTIFICATION METHOD: sequer
PUBLICATION INFORMATION:
AUTHORS: FREEMAN, GORDON J.
                                                                                                                                                                                                                                                                                                                                                                            FEATURE:
NAME/KEY: IG V-set doma
LOCATION: 1 to 104
IDENTIFICATION METHOD:
IDENTIFICATION METHOD:
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FEATURE:
NAME/KEY: N-linked glyc
LOCATION: 192 to 194
IDENTIFICATION METHOD:
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NAME/KEY: N-linked glycosylation
LOCATION: 152 to 154
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                                                                                                                                            AUTHORS:
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                                                                                       JOURNAL: The VOLUME: 143
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IDENTIFICATION METHOD: similarit. IDENTIFICATION METHOD: sequence
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                                                                                                                             TITLE:
                                                                                                                                                                                 AUTHORS:
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                                                                        ISSUE:
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                                                                                                                       S: NADLER, LEE M.

B7, A New Member Of The Ig Superfamily With
Unique Expression On Activated And Neoplast
                                                                                                                                                                                              FREEDMAN, ARNOLD S. SEGIL, JEFFREY M. LEE, GRACE
                                                                                                      The Journal of Immunology
                                                                                                                                                                             WHITMAN,
                                                                                                                                                                                                                                                                                                                                                                                                                    Ig V-set domain
1 to 104
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                  IN SEQ ID
                                                                                                                                                                               JAMES F.
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                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION: 435

PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/403,253

FILING DATE: 10 MARCH 1995

APPLICATION NUMBER: US 08/253,964

FILING DATE: 3 JUNE 1994

APPLICATION NUMBER: US 08/073,223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION DATA:
APPLICATION NUMBER: US
FILING DATE: May 4, 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Nabel, Gary J.

APPLICANT: Gray, Gary S.

APPLICANT: Rennert, Paul D.

TITLE OF INVENTION: Methods For Selectively Stimulating Proliferation Of T-Cells

NUMBER OF SEQUENCES: 14

CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: June, Carl H. APPLICANT: Thompson, Cra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
ZIP: 021
                                                                                                                                                                                            APPLICATION NUMBER: US 07/864,805 FILING DATE: 7 APR 1992 APPLICATION NUMBER: US 08/247,505 FILING DATE: 23 MAY 1994
FILING DATE: 16 JU
APPLICATION NUMBER:
FILING DATE: 23 NO
                                                                                                                APPLICATION NUMBER: US 07/864,866
FILING DATE: 7 APR 1992
APPLICATION NUMBER: US 08/218,155
FILING DATE: 25 MAR 1994
                                                                                                                                                                                                                                                                            FILING DATE: 4 JUNE 1993
APPLICATION NUMBER: US 08/200,947
FILING DATE: 23 FEB 1994
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                                   APPLICATION NUMBER: US (FILING DATE: 7 APR 1992 APPLICATION NUMBER: US (FILING DATE: 16 JUNE 1997)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Boston
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60 State Street, Suite 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Thompson, Craig B.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER: US/08/435,816A
May 4, 1995
16 JUNE 1992
JMBER: US 07/275,433
23 NOV 1988
                                                         US 07/902,467
                                                                                                 US 07/864,807
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TELEFAX: (617) 227-5941 INFORMATION FOR SEQ ID NO: 2:
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NAME/KEY:
LOCATION:
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NAME/KEY:
LOCATION:
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REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: RP
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURE:
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                                                  NAME/KEY: N-linked gly LOCATION: 192 to 194 IDENTIFICATION METHOD:
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LOCATION:
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     NAME/KEY:
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amino acid
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N-linked glycosylation
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B cell activation antigen; natural ligand
for CD28 T cell surface antigen; transmembrane
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GENERAL INFORMATION:
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Best Local Similarity
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APPLICANT:
                ZIP: 02115
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette,
                                                                                                                          NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
ADDRESSEE: The Dana-Farber Cancer Institute
                                                                                                                                                                                         TITLE OF INVENTION:
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AUTHORS:
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STATE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS: NADLER, LEE M.
TITLE: B7, A New Member Of The Ig Superfamily With
TITLE: Unique Expression On Activated And Neoplastic B Cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
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PAGES: 2714-2722
DATE: 15-OCT-1989
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LOCATION:
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 COMPUTER:
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IDENTIFICATION
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                                                                                                                                                                                                                                                                                                                                                                    NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         216;
                                                                                                Boston
                                                                                                                                                                                                                                                                                       Application US/08453386
                                                             Massachusetts
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                                                                                                           44 Binney Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                       FREEDMAN, ARNOLD S.
                                                                                                                                                                                                                        NADLER, LEE M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The Journal of Immunology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WHITMAN,
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1 to 104
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3: Diskette, 3.50 inch, 720kb storage
IBM Personal*System 2; Model 30
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                                                                                                                                                                          DNA Encoding B7, A New Member Of The IgG Superfamily With Unique Expression Activated And Neoplastic B Cells.
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TELEFAX: (203) 259-2846 INFORMATION FOR SEQ ID NO: 2:
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APPLICATION NUMBER: US 07/
FILING DATE: 01-OCT-1990
ATTORNBY/AGENT INFORMATION:
NAME: HART, JULIA D.
REGISTRATION NUMBER: 33132
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NAME/KEY:
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MOLECULE TYPE:
DESCRIPTION:
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PRIOR APPLICATION DATA:
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LENGTH: 288 amino acids
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NAME/KEY: N-linked gl: LOCATION: 173 to 175 IDENTIFICATION METHOD: IDENTIFICATION METHOD:
                                                                                                                                                                                                                                                                           NAME/KEY: N-linked glycosylation LOCATION: 55 to 57 IDENTIFICATION METHOD: similarit IDENTIFICATION METHOD: sequence
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LOCATION:
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LOCATION: 64 to 66
IDENTIFICATION METHOD: similarit:
IDENTIFICATION METHOD: sequence
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SOFTWARE: WordPer
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WordPerfect 5.0
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173 to 175
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152 to 154
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19 to 21
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B cell activation antigen; natural ligand
for CD28 T cell surface antigen; transmembrane protein
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UMBER: US 07/591,300
01-OCT-1990
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                                                                                                                                                  US-08-453-386A-2
                                                      Sequence 2, Application US/08453386A GENERAL INFORMATION:
APPLICANT: FREEMAN, Gordon J.
APPLICANT: FREEDMAN, Arnold S.
APPLICANT: NADLER, Lee M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
APPLICANT: NADLER, Lee M.
TITLE OF INVENTION: DNA Encoding B7, A New
TITLE OF INVENTION: With Unique Expression
TITLE OF INVENTION: Cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: IG C-set domain LOCATION: 105 to 202 IDENTIFICATION METHOD: SIDENTIFICATION METHOD: see PUBLICATION INFORMATION:
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NAME/KEY:
                                                                                                                                                                                                                                                                                                147
                                                                                                                                                                                                                                               181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LOCATION: 177 to 179
IDENTIFICATION METHOD: Similarity
IDENTIFICATION METHOD: Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS: NADLER, LEE M.
TITLE: B7. A New Member Of The Ig Superfamily With
TITLE: Unique Expression On Activated And Neoplast:
JOURNAL: The Journal of Immunology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: IG V-set domain LOCATION: 1 to 104 IDENTIFICATION METHOD: sin IDENTIFICATION METHOD: see
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                                                                                                                                                                                                                                                                                                                                                                            87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS
                                                                                                                                                                                                                                                                                                                                                                                                                 61
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PAGES: 2714-2722
DATE: 15-OCT-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IDENTIFICATION METHOD:
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                                                                                                                                                                                                                                                                                                                                                                                             YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
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                                                                                                                                                                                                                            NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242
                                                                                                                                                                                                                                                                                                    ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206
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LEE, GRACE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Score 1149; DB 8; 100.0%; Pred. No. 9.7e-112;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JAMES F.
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                 Member Of The IgG Superfamily On Activated And Neoplastic
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CURRENT APPLICATION NUMBER: US/08/4
CURRENT FILING DATE: 1995-05-30
PRIOR APPLICATION NUMBER: 08/153,
PRIOR FILING DATE: 1993-11-15
PRIOR PRIOR PRIOR NUMBER: 07/751,
PRIOR APPLICATION NUMBER: 07/751,
PRIOR APPLICATION NUMBER: 07/591,
PRIOR FILING DATE: 1991-08-28
PRIOR FILING DATE: 1990-01-10
NUMBER OF SEQ ID NOS: 7
SOFTWARE: PATENTIAN PATENTIAN OF SEQ ID NO 2
LENGTH: 288
TYPE: PRT
TYPE: PRT
TORGANISM: Artificial Sequence
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; PAGES: 2714-2722
; DATE: 15-OCT-1989
US-08-453-386A-2
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LOCATION: (35)
NAME/KEY: DOMAIN
LOCATION: (1)..(208)
OTHER INFORMATION: Extracellular
NAME/KEY: TRANSMEM
LOCATION: (209)..(235)
NAME/KEY: TRANSMEM
LOCATION: (209)..(235)
NAME/KEY: DOMAIN
LOCATION: (236)..(254)
COPHER INFORMATION: N-linked glycosylation at OTHER INFORMATION
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Best Local
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LOCATION: (105)..(202)
OTHER INFORMATION: Ig C-set
OTHER INFORMATION: Description of Artificial Sequence: Primer
OTHER INFORMATION: Signal sequence from positions -34 through
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: DOMAIN
LOCATION: (1)..(104)
OTHER INFORMATION: IG V-set
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                               181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
207
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                                                                                                                           ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                atcn 100.0%; Score 1149; DB 8; 2al Similarity 100.0%; Pred. No. 9.7e-112; 216; Conservative n: Mismatch.
NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN
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RESULT

LOCATION: 1 to 208

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US-08-592-711-2
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INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/43
FILING DATE: 4 -MAY-1995
APPLICATION NUMBER: US 08/40
FILING DATE: 10-MARCH-1995
APPLICATION NUMBER: US 08/25
APPLICATION UNBER: US 08/25
APPLICATION UNBER: US 08/25
FILING DATE: 3-JUNE-1994
                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 288 amino acid
                                                                                                                                                                                                                                                                                                                TELECOMMUNICATION INFORMATION: TELEPHONE: (617) 227-7400
                                                                                                                                 FEATURE:
                                                                                                                                                                                     MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 23-NOV-1988
ATTORNEY/AGENT INFORMATION:
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TITLE OF INVENTION: Methods For Selectively Stimulating Proliferation Of T-Cells
NUMBER OF SEQUENCES: 14
                 FEATURE;
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                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US 0 FILING DATE: 7-APR-1992 APPLICATION NUMBER: US 0 FILING DATE: 25-MAR-1994
                                      OTHER INFORMATION:
                                                  IDENTIFICATION METHOD: amino terminal sequencing of IDENTIFICATION METHOD: soluble protein
                                                                                            LOCATION:
                                                                                                                                              DESCRIPTION:
                                                                                                                                                                                                                                                                                                                                                                       NAME: Mandragouras, Amy E. REGISTRATION NUMBER: 36,207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US 07/864,807 FILING DATE: 7-APR-1992
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APPLICATION NUMBER: US 08/200,947
FILING DATE: 23-FEB-1994
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FTILING DATE: 4-JUNE-1993
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OPERATING SYSTEM: PC-DOS/MS-DOS
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NAME/KEY: extracellular domain
                                                                                                                                                                                                        TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER:
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                                                                                                          NAME/KEY: signal sequence
                                                                                                                                                                      DESCRIPTION:
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                                                                                                                                                                                                                                                                          (617) 227-5941
(7) 10 NO: 2:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Thompson, Craig B.
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B cell activation antigen; natural ligand
for CD28 T cell surface antigen; transmembrane protein
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                                    hydrophobic
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IDENTIFICATION METHOD: PUBLICATION INFORMATION:
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                   AUTHORS:
TITLE: E
TITLE: U
                                                                                                                                                                                            NAME/KEY:
LOCATION:
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                                                                                                                                  AUTHORS:
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IDENTIFICATION METHOD:
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LOCATION:
    JOURNAL:
                                                                   AUTHORS:
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S: NADLER, LEE M.
B7, A New Member Of The Ig Superfamily With
D1 Unique Expression On Activated And Neoplastic B Cells
The Journal of Immunology
                                                                                 SEGIL, JEFFREY M.
LEE, GRACE
                                                                                                                             FREEMAN, GORDON J.
                                                              WHITMAN, JAMES F.
                                                                                                              FREEDMAN, ARNOLD S
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152 to 154
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105 to 202
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US-09-206-132-6
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Best Local Similarity
                                                                    ATTORNEY/AGENT INFORMATION:
NAME: MANDIAGOURAS, ANY E.
REGISTRATION UNMBER: 36,207
REFERENCE/DOCKET NUMBER: RPI-008
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
TELEFAX: (617) 227-5941
                                                     TELEFAX: (617) 227-594 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Freeman, Gordon J.
APPLICANT: Nadler, Lee M.
APPLICANT: Gray, Gary S.
TITLE OF INVENTION: TUMOR CELLS MODIFIED TO EXPRESS B7-2 AND B7-3
TITLE OF INVENTION: WITH INCREASED IMMUNOGENICITY AND USES THEREFO
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOPTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
SEQUENCE CHARACTERISTICS:
LENGTH: 288 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
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CITY: B
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PAGES: 2714-2722
DATE: 15-OCT-1989
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                                                                                                                                                                                              APPLICATION NUMBER: 08/456,104
FILING DATE:
APPLICATION NUMBER: 08/101,624
FILING DATE: 26-JUL-1993
APPLICATION NUMBER: 08/109,393
APPLICATION NUMBER: 19-AUG-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY:
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Pred. No. 9.7e-112;
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APPLICANT: Newell, Martha K.

TITLE OF INVENTION: METHODS AND PRODUCTS RELATED TO TITLE OF INVENTION: METHODS AND PRODUCTS RELATED TO TITLE OF INVENTION: METABOLIC INTERACTIONS IN DISEASE FILE REFERENCE: V0139/7028/HK

CURRENT APPLICATION NUMBER: US/09/277,575

CURRENT FILING DATE: 1999-03-26

EARLIER APPLICATION NUMBER: US. 60/082,250

EARLIER FILING DATE: 1998-04-17

EARLIER FILING DATE: 1998-07-29

EARLIER FILING DATE: 1998-07-29

EARLIER APPLICATION NUMBER: U.S. 60/101,580

EARLIER APPLICATION NUMBER: U.S. 60/101,580
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US-09-206-132-6
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SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 2
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TYPE: PRT
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                                                                                                                            Match 100.0%;
Local Similarity 100.0%;
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               NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242
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Search completed: June 18, 2002, 11:46:50 Job time: 223 sec

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Result
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Maximum Match 10
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Maximum DB seq length: 2000000000
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       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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       Issued_Patents_AA:*
1: /cgn2_6/ptodata/2,
2: /cgn2_6/ptodata/2,
3: /cgn2_6/ptodata/2,
4: /cgn2_6/ptodata/2,
5: /cgn2_6/ptodata/2,
6: /cgn2_6/ptodata/2,
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/cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6A_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/backfiles1.pep:*
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US-08-153-262-2
US-08-479-744A-29
US-08-280-757B-29
US-08-280-757B-29
US-09-159-135-2
US-08-205-697A-19
US-08-450-798-2
US-08-450-798-2
US-08-450-253A-2
PCT-US95-02576-19
US-09-460-384-36
US-08-205-697A-17
US-08-205-697A-17
US-08-205-697A-2
US-08-205-597A-2
US-08-205-597A-2
US-08-117-524-19-15
US-08-205-597A-2
US-08-205-597A-2
US-08-205-597A-2
US-08-117-524-2
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US-08-456-104-6
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Sequence 15, Appli
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44.	Segmence 2. Appl	Sequence 2, Appl:	Sequence 2, Appl:	Sequence 2, Appl	Sequence 65, App.	Sequence 65, Appl	•	Sequence 63, Appl	Sequence 11, Appl	Sequence 11, Appl	Sequence 11, Appl	Sequence 9, Appli	Sequence 9, Appli	Sequence 9, Appli	Sequence 4, Appli	Sequence 4, Appli	Sequence 31, Appl	Sequence 31, Appl

ALIGNMENTS

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; Sequence 2, Application US/08147772
; Patent No. 5858776
; GENERAL INFORMATION:
   APPLICANT: Ostrand-Rosenberg, Suza APPLICANT: Baskar, Sivasubramanian APPLICANT: Glimcher, Laurie H. APPLICANT: Freeman, Gordon J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 1
US-08-147-772-2
                                                                                                                                                      TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
TELEPAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 288 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                     FILING DATE:
ATTORNATION:
ATTORNATION:
NAME: Mandragouras, Amy E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: RP
                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE:
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Nadler, Lee M.
TITLE OF INVENTION: Tumor Cells With Increased Immunogenicity
NUMBER OF SEQUENCES: 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS:
                                                                                            MOLECULE TYPE: protein
DESCRIPTION: B cell activation antigen; natural ligand
                                                              FEATURE:
                                                                                                                                         TYPE: amin
TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08/147,772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE:
                     NAME/KEY: signal sequence LOCATION: -34 to -1
                                                                                 DESCRIPTION:
IDENTIFICATION METHOD: amino terminal sequencing
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Baskar, Sivasubramanian
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                                                                                 surface
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                                                                                 antigen; transmembrane protein
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PUBLICATION INFORMATION:
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                                                                                                                                                                                                                                                                                     NAME,KEY: N-linked glycosylation LOCATION: 198 to 200 IDENTIFICATION METHOD: similarit. IDENTIFICATION METHOD: sequence
                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY: N-linked glycosylation LOCATION: 192 to 194 IDENTIFICATION METHOD: similarit
                                                                         AUTHORS:
                                                                                                       IDENTIFICATION METHOD: IDENTIFICATION METHOD:
                                                                                                                                                                                               NAME/KEY: Ig V-set domain LOCATION: 1 to 104 IDENTIFICATION METHOD: sin IDENTIFICATION METHOD: sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LOCATION: 177
IDENTIFICATION
   AUTHORS:
                    AUTHQRS:
                                       AUTHORS:
                                                      AUTHORS:
                                                                                                                                          NAME/KEY: Ig C-set domain LOCATION: 105 to 202
                                                                                                                                                                                                                                                                                                                                                                                 IDENTIFICATION METHOD:
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IDENTIFICATION METHOD:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: N-linked glycosylation LOCATION: 177 to 179
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: N-linked glycosylation LOCATION: 152 to 154
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WHITMAN, JAMES F.
                  SEGIL,
                                                    FREEMAN, GORDON J. FREEDMAN, ARNOLD S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N-linked glycosylation
173 to 175
TION METHOD: similarit
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RESULT 2
US-08-456-104-6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 6, Application US/08456104 Patent No. 5861310 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 216; Conservative (
                TELEFAX: (617) 227-5941 INFORMATION FOR SEQ ID NO:
                                                                                                                                     PRIOR APPLICATION NUMBER: 08/101,624;
APPLICATION NUMBER: 08/101,624;
FILING DATE: 26-JUL-1993;
APPLICATION NUMBER: 08/109,393;
APPLICATION NUMBER: 19-AUG-1993
ATTORNEY/AGENT INFORMATION:
                                                                   REFERENCE/DOCKET NUMBER: RP
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                             MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Freeman, Gordon J.
APPLICANT: Nadler, Lee M.
APPLICANT: Gray, Gary S.
TITLE OF INVENTION: TUMOR CELLS MODIFIED TO EXPRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES:
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CITY: Boston
STATE: Massac
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TITLE: B
TITLE: U
JOURNAL:
                                                  TELEPHONE:
                                                                                                  NAME: Mandragouras, Amy E. REGISTRATION NUMBER: 36,207
                                                                                                                                                                                                                                                                       FILING DATE:
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                                                                                                                                                                                                                                                      CLASSIFICATION:
                                                                                                                                                                                                                                                                                        APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
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DATE: 15-OCT-1989
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CHARACTERISTICS:
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TYPE: amino acids; TYPE: amino acids; TOPOLOGY: linear; MOLECULE TYPE: protein US-08-456-104-6
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                                                     TELEFAX: (617) 227-74(
TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 288 amino acids
TYPE: amino acid
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COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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APPLICANT: Nadler, Lee M.
APPLICANT: Gray, Gary S.
TITLE OF INVENTION: No. 5942607el CTLA4/CD28 Ligands and
TITLE OF INVENTION: Uses Therefor
NUMBER OF SEQUENCES: 25
                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: MANDIAGOURAS, AMY E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: RPI-004
                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/08/101,624
FILING DATE: 26-JUL-1993
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
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ADDRESSEE: LAHIVE & COCKFIELD
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                          MOLECULE TYPE:
DESCRIPTION:
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STATE: Massac
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        DESCRIPTION:
                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: FILING DATE:
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protein
B cell activation antigen; natural ligand
for CD28 T cell surface antigen; transmembrane protein
                                                                                                                                                            7) 227-7400
227-5941
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NAME/KEY: Ig C-set domain LOCATION: 105 to 202 IDENTIFICATION METHOD: simi IDENTIFICATION METHOD: seque PUBLICATION INFORMATION: AUTHORS: FREEMAN, GORDON J.
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LOCATION:
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LOCATION:
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LOCATION:
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LOCATION: 55 to 57
IDENTIFICATION METHOD:
IDENTIFICATION METHOD:
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                                                                                                                    NAME/KEY: IG V-set domain LOCATION: 1 to 104 IDENTIFICATION METHOD: sir IDENTIFICATION METHOD: see
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173 to 175
TION METHOD: similarit
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198 to 200
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19 to 21
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RESULT 4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                     TELEFAX: 7038164100 INFORMATION FOR SEQ ID NO: 6:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                        MEDIUM TYPE: floppy disk
COMPOTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/751,767A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: GRANT, HUGH
APPLICANT: MACDONALD, IAN D.
TITLE OF INVENTION: INTERLUKIN-12 FUSION PROTEIN
NUMBER OF SEQUENCES: 80
                                                                          REGISTRATION NUMBER: 36,663
REFERENCE/DOCKET NUMBER: 11'
TELECOMMUNICATION INFORMATION:
TELEPHONE: 7038164091
                   SEQUENCE CHARACTERISTICS: >
                                                                                                                                                    ATTORNEY/AGENT INFORMATION: NAME: SADOFF, B.J.
                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: ANDERSON, ROBERT J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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                                      TELEPHONE: /USUL.
TELEPHONE: /USUL.
TEAX: 7038164100
                                                                                                                                                                                       FILING DATE: 0 CLASSIFICATION:
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                                                                                                                                                                                                                                                                                                                                                              ZIP:
                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Match 100.0%; Score 1149; DB 2; Local Similarity 100.0%; Pred. No. 5.2e-113; es 216; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DATE: 15-OCT-1989
RELEVANT RESIDUES IN SEQ ID NO: 23: From -26 to 262
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B7, A New Member of The Ig Superfamily With

Unique Expression On Activated And Neoplastic B Cells

L: The Journal of Immunology
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1100 NORTH GLEBE ROAD
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LEE, GRACE
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                                                                                                                                         TELEFAX: (203) 259-28. INFORMATION FOR SEQ ID NO:
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                      MOLECULE TYPE:
DESCRIPTION:
                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
NAME: HARF, JULIA D.
REGISTRATION NUMBER: 33132
REFERENCE/DOCKET NUMBER: DFCI-116.1
TELECOMMUNICATION INFORMATION:
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ADDRESSEE: The Dana-Farber Cancer Institute
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TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: FREEMAN, GORDON J.
APPLICANT: NADLER, LEE M.
                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 288 amino acids
                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: WordPerfect 5.0 CURRENT APPLICATION DATA:
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MEDIUM TYPE: Diskett
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                                                              TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                  OPERATING SYSTEM: MS/DOS
SOFTWARE: WordPerfect 5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP:
                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US 07/751,306 FILING DATE: 28-AUG-1991
                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US/08/153,262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY:
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                                                                                                                                                                               TELEPHONE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Match 100.0%; Score 1149; DB 2; Local Similarity 100.0%; Pred. No. 5.2e-113;
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                                                                              amino acid
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                                                              linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      E: Diskette, 3.50 inch, 720kb storage IBM Personal System 2; Model 30
                                                                                                                                                                               (203)
protein

B cell activation antigen; natural ligand for CD28 T cell surface antigen; transmem
                                                                                                                                                           259-2846
                                                                                                                                                                             255-8900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA Encoding B7, A New Member Of The IgG Superfamily With Unique Expression Activated And Neoplastic B Cells.
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    transmembrane protein
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NAME/KEY: Ig C-set domain
LOCATION: 105 to 202
IDENTIFICATION METHOD: similarit
IDENTIFICATION METHOD: sequence
PUBLICATION INFORMATION:
                                                                                                                  FEATURE:
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                                                                                                                                                   NAME/KEY: IG V-set domain LOCATION: 1 to 104 IDENTIFICATION METHOD: sin
                                                                                                                                                                                                                                                 NAME/KEY: N-linked glycosylation LOCATION: 198 to 200 IDENTIFICATION METHOD: similarit
                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: N-linked glycosylation LOCATION: 192 to 194 IDENTIFICATION METHOD: similarit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: N-linked glycosylation LOCATION: 173 to 175 IDENTIFICATION METHOD: similarity IDENTIFICATION METHOD: sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY: N-linked glycosylation LOCATION: 64 to 66 IDENTIFICATION METHOD: similarit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY: 5-linked glycosylation LOCATION: 55 to 57 IDENTIFICATION METHOD: sequence
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LOCATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: transmembrane domain LOCATION: 209 to 235 IDENTIFICATION METHOD: similar: IDENTIFICATION METHOD: sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: signal sequence LOCATION: -34 to -1
                                                                                                                                     IDENTIFICATION METHOD:
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  AUTHORS:
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FREEMAN, GORDON J.
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                                                                                                                                                                   MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Vers
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/479,744A
FILING DATE: June 7, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Freeman, Gordon J.
APPLICANT: Nadler, Lee M.
APPLICANT: Gray, Gary S.
TITLE OF INVENTION: No. 6084067el CTLA4/CD28 Ligands and
TITLE OF INVENTION: Uses Therefor
NUMBER OF SEQUENCES: 55
                                                                                                                FILING DATE: June 7, 1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
PRIOR APPLICATION UNBER: 08/280,757
                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD, LLP
STREET: 60 State Street
                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
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AUTHORS:
AUTHORS:
                                                                            APPLICATION NUMBER: 08/200,77, FILING DATE: 26-JUL-1994
FILING DATE: 08/109,393
                                                                                                                                                                                                                                                                                                                                                                             STREET: 60 S
CITY: Boston
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                                               APPLICATION NUMBER: 08/1 FILING DATE: 28-AUG-1993 APPLICATION NUMBER: 08/1
                                                                                                                                                                                                                                                                                                                                           COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PAGES: 2714-2722
DATE: 15-OCT-1989
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             APPLICATION NUMBER:
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DATE:
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S: SEGIL, JEFERBY M.
S: LEE, GRACE
S: WHITMAN, JAMES F.
S: NADLER, LEE M.
B7, A New Member Of The Ig Superfamily With
Unique Expression On Activated And Neoplastic
L: The Journal of Immunology
                                                                                                                                                                                                                                                                                                                                                                Massachusetts
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                                                                                                                                                                                                                                                                                                                                               USA
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                                26-JULY-1993
3-NOV-1993
                                                 08/101,624
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INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
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NAME/KEY: signal sequence
LOCATION: -34 to -1
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DESCRIPTION:
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                                      NAME/KEY: N-linked glycosylation LOCATION: 192 to 194 IDENTIFICATION METHOD: similarit IDENTIFICATION METHOD: sequence
                                                                                                                                                     NAME/KEY: N-linked glycosylation LOCATION: 177 to 179 IDENTIFICATION METHOD: similarit
                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: N-linked glycosylation LOCATION: 64 to 66 IDENTIFICATION METHOD: similarit
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IDENTIFICATION METHOD: amino terminal sequencing of IDENTIFICATION METHOD: soluble protein OTHER INFORMATION: hydrophobic
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                                                                                                                                                                                                                                                      LOCATION: 173 to 175 IDENTIFICATION METHOD:
                                                                                                                                                                                                                                                                        NAME/KEY: N-linked glycosylation LOCATION: 173 to 175
                                                                                                                                                                                                                                                                                                                                                LOCATION: 152 to 154 IDENTIFICATION METHOD:
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LOCATION:
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LOCATION:
NAME/KEY: N-linked glycosylation
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B cell activation antigen; natural ligand
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RESULT 7
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                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: Freeman, Gordon J.
APPLICANT: Hadler, Lee M.
APPLICANT: Gray, Gary S.
APPLICANT: Greenfield, Edward
APPLICANT: Greenfield, Edward
TITLE OF INVENTION: Uses Therefor
NUMBER OF SEQUENCES: 53
                  COMPUTER READABLE FORM:
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AUTHORS: FREEMAN, GOR
AUTHORS: FREEDMAN, AR
                                                                                                                                          CORRESPONDENCE ADDRESS:
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LOCATION:
                                     ZIP:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ISSUE: 8
PAGES: 2714-2722
DATE: 15-OCT-1989
 MEDIUM TYPE:
                                                     COUNTRY:
                                                                                       CITY: Boston
                                                                                                      STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LOCATION: 105 to 202 IDENTIFICATION METHOD:
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                                                                                                                                                                                                                                                                                                                                                                                                                      NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242
                                     02109
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B7, A New Member Of The 1g Superfamily With
Unique Expression On Activated And Neoplastic B Cells
L: The Journal of Immunology
                                                                      Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             143
                                                                                                        60 State Street, Suite 510
                                                       USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEGIL, JEFFREY M.
LEE, GRACE
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Floppy disk
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similarity with known

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FILING DATE: 26-JULY-1993
APPLICATION NUMBER: 08/109/393
FILING DATE: 19-AUG-1993
APPLICATION NUMBER: 08/147/773
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: RP:
TELECOMMUNICATION INFORMATION:
TELECHONE: (617) 227-7400
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OPERATING SYSTEM:
                                        FEATURE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DLECULE TYPE: protein
DESCRIPTION: B cell activation antigen; natural ligand
DESCRIPTION: for CD28 T cell surface antigen; transmembrane protein
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LOCATION:
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LOCATION: -34 to -1
IDENTIFICATION METHOD: amino terminal sequencing of
IDENTIFICATION METHOD: soluble protein
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NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                         NAME/KEY: N-linked glycosylation LOCATION: 55 to 57 IDENTIFICATION METHOD: similarity IDENTIFICATION METHOD: sequence
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                                                                                               NAME/KEY: N-linked glycosylation LOCATION: 152 to 154
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                                                                                                                                                                                                  N-linked glycosylation 64 to 66
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N-linked glycosylation
173 to 175
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V: 435
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                          Sequence 2, Application US/09159135; Patent No. 6149905; GENERAL INFORMATION:
                                                                                        RESULT
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Best Local
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APPLICANT:
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                                                                                                                                                                                                                   121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
                                                                                                                                        207
                                                                                                                                                     181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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                                                                                                                                                                                                                                                                                                                         PAGES: 2714-2722
DATE: 15-OCT-1989
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                                                                                                                                                                                                                                                                                61 YKNRTIFDITNNLSIVTLALRDSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
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nes 216; Conservat
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VOLUME:
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                                                                                           8
                                                                                                                                        NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unique Expression On Activated And Neoplastic B Cells : The Journal of Immunology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B7, A New Member Of The Ig Superfamily With
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                143
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 Baskar, Sivasubramanian
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                Ostrand-Rosenberg, Suzanne
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                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Score 1149; DB 4; 100.0%; Pred. No. 5.2e-113;
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TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
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DESCRIPTION: B cell activation antigen; natural ligand
DESCRIPTION: for CD28 T cell surface antigen; transmembrane protein
                                                                                                                                                                                                          FEATURE:
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NAME: Mandragouras, Amy E.
REGISTRATION NUMBER: 36,20
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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PRIOR APPLICATION DATA:
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 NAME KEY:
                                                                               NAME/KEY: N-linked glycosylation LOCATION: 55 to 57
                                                                                                                                   IDENTIFICATION METHOD: IDENTIFICATION METHOD:
                                                                                                                                                                                                                                       LOCATION: 236 to 254 IDENTIFICATION METHOD:
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IDENTIFICATION METHOD: amino terminal sequencing of IDENTIFICATION METHOD: soluble protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OTHER INFORMATION: hydrophobic
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N-linked glycosylation 64 to 66
                                                                                                                                                                      N-linked glycosylation 19 to 21
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                                                                                                                                                                                                                                                                           intracellular domain
                                                                                                                                                                                                                                                                                                                                              transmembrane domain 209 to 235
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; RELEVANT RESIDUES IN SEQ ID NO: US-09-159-135-2
                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                             Matches 216;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IDENTIFICATION METHOD: PUBLICATION INFORMATION:
                181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
                                          147 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 206
                                                              121 ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
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                                                                                                                                61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL: THE
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                                                                                                              87 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146
                                                                                                                                                                                27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS:
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                                                                                                                                                                                               1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
                                                                                                                                                                                                                                                                                                                                                                                PAGES: 2714-2722
DATE: 15-OCT-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS: NADLER, LEE M.
TITLE: B7, A New Member Of The Ig Superfamily With
TITLE: Unique Expression On Activated And Neoplastic B Cells
JOURNAL: The Journal of Immunology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME/KEY: N-linked glycosylation LOCATION: 198 to 200 IDENTIFICATION METHOD: similarit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS:
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100.0%; Score 1149; DB 4; ilarity 100.0%; Pred. No. 5.2e-113; Conservative 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FREEDMAN, ARNOLD S.
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105 to 202
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152 to 154
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207 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242

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RESULT 10
US-08-702-525-19
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                              Patent No. 6294660
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ouery Match 100.0%; Score 1149; DB 4; Length 288; Best Local Similarity 100.0%; Pred. No. 5.2e-113; Matches 216; Conservative 0; Mismatches 0; Indels 0
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APPLICANT: Borriello, Francescopaulo
APPLICANT: Freeman, Gordon J.
APPLICANT: Nadler, Lee M.
APPLICANT: France M.
   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/08/205,697A
FILING DATE: 02-Mar-1994
ATTORNEY/AGENT INFORMATION:
NAME: Mandragouras, Amy E.
REGISTRATION NUMBER: 36,207
DEFEDERATION NUMBER: 36,207
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
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TELEPHONE: (617)227-7400
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                                                                                                                                                                                                                                                                                               207
                                                                                                                                                                                                                                                                                                                          181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
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OPERATING SYSTEM: PC
SOFTWARE: ASCII Text
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                                                                                                                                                                                                                                                                                   NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242
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US-09-450-798-2
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                                                                                                                                                                GENERAL INFORMATION:
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                 APPLICANT: Ostrand-Rosenberg, Suzar APPLICANT: Baskar, Sivasubramanian APPLICANT: Glimcher, Laurie H. APPLICANT: Freeman, Gordon J. APPLICANT: Nadler, Lee M. TITLE OF INVENTION: Tumor Cells Wit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US 08/
FILING DATE: 02-Mar-1994
ATTORNEY/AGENT INFORMATION:
NAME: Mandragouras, Amy E.
REGISTRATION NUMBER: 36,20
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII Text
CURRENT APPLICATION DATA:
NUMBER OF SEQUENCES:
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LENGTH: 288 amino acid
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TELECOMMUNICATION INFORMATION:
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APPLICANT: Nadler, Lee
TITLE OF INVENTION: No. 6294660el Forms of T Ce
TITLE OF INVENTION: Molecules and Uses Therefor
NUMBER OF SEQUENCES: 65
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                                                                                                                                                                                                                                                                                                                                                                       181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       27 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid
TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                             NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242
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                                                                                                                                    Ostrand-Rosenberg, Suzanne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (617)227-7400
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LAHIVE & COCKFIELD
                 Tumor Cells With Increased Immunogenicity
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TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 288 amino acids
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 03-NOV-1993 ATTORNEY/AGENT INFORMATION:
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ADDRESSEE: LAHIVE & COCK
STREET: 60 State Street,
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IDENTIFICATION METHOD:
FEATURE:
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NAME/KEY: extracellular domain LOCATION: 1 to 208
IDENTIFICATION METHOD: similar:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE: protein
DESCRIPTION: B cell activation antigen; natural ligand
DESCRIPTION: for CD28 T cell surface antigen; transmembrane protein
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PRIOR APPLICATION DATA:
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LOCATION:
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COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                           NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: intracellular domain LOCATION: 236 to 254 IDENTIFICATION METHOD: similar
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TYPE: amino acid
TOPOLOGY: linear
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LOCATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER:
                                                                                         NAME/KEY: N-linked glycosylation LOCATION: 64 to 66 IDENTIFICATION METHOD: similarit
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                 NAME/KEY: N-linked glycosylation LOCATION: 152 to 154 -
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IDENTIFICATION METHOD:
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55 to 57
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Matches
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                                                             147
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207
                181 NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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les 216; Conservat
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DATE: 15-OCT-1989
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                                                                                                                                        YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
                                                                                        ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
                                                                                                                        YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS
NMTTNHSFMCLIKYGHLRVNQTFNWNTTKQEHFPDN 242
                                                         ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF
                                                                                                                                                                                                                                                                                                                                                                                                                                :: WHITMAN, JAMES F.
:: NADLER, LEE M.
BT. A New Member Of The Ig Superfamily With
Unique Expression On Activated And Neoplastic B Cells
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                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                   The Journal of Immunology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LEE, GRACE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FREEMAN, GORDON J.
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1 to 104
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100.0%; Pred. No. 5.2e-113;
htive 0; Mismatches 0;
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RESULT 12 US-08-403-253A-2 ; Sequence 2, Ap

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Patent No. 6352694
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: (617) 742-4214 INFORMATION FOR SEQ ID NO: 2: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 25 MAR 1994
APPLICATION NUMBER: US 07/864,807
FILING DATE: 7 APR 1992
APPLICATION NUMBER: US 07/902,467
FILING DATE: 16 JUNE 1992
APPLICATION NUMBER: US 07/275,433
FILING DATE: 23 NOV 1988
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COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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APPLICANT: Gray, Gary S., Rennert, Paul D.
TITLE OF INVENTION: Methods For Selectively Stimulating Proliferation Of T-Cells
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION: TELEPHONE: (617) 227-7400 TELEFAX: (617) 742-4214
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ATTORNEY/AGENT INFORMATION:
NAME: Mandragouras, Amy E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: RPI-002CP2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: protein
DESCRIPTION: B cell activation antigen; natural ligand
DESCRIPTION: for CD28 T cell surface antigen; transmembrane protein
                                                                                                                                   FEATURE:
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NAME/KEY: transmembrar
LOCATION: 209 to 235
IDENTIFICATION METHOD:
                                                                                                                                                                NAME/KEY: extracellular domain LOCATION: 1 to 208 IDENTIFICATION METHOD: similari IDENTIFICATION METHOD: sequence
                                                                                                                                                                                                                                                                                                                                                                           OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: signal sequence LOCATION: -34 to -1 IDENTIFICATION METHOD: ami
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UMBER: US 08/200,947
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OD: soluble protein
hydrophobic
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                                          US-08-403-253A-2
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PUBLICATION INFORMATION:
AUTHORS: FREEMAN, GRNOLD J.
AUTHORS: FREEDMAN, ARNOLD S.
AUTHORS: SEGIL, JEFFREY M.
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                                                          JOURNAL: The VOLUME: 143
                                                                                         AUTHORS: NADLER, LEE M.
TITLE: B7, A New Member Of The Ig Superfamily With
TITLE: Unique Expression On Activated And Neoplastic B Cells
                                                                                                                                                                                                                                                                                                            LOCATION: 1 to 104
IDENTIFICATION METHOD:
IDENTIFICATION METHOD:
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LOCATION:
              PAGES: 2714-2722
DATE: 15-OCT-1989
                                                                                                                                         AUTHORS:
                                                                                                                                                        AUTHORS:
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                                                                                                                                      WHITMAN, JAMES F.
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177 to 179
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173 to 175
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152 to 154
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55 to 57
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19 to 21
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198 to 200
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RESULT 13
PCT-US95-02576-19
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PCT-US95-02576-19
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APPLICANT:
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Best Local Similarity
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                                                                                                                  Matches 216;
                                                                                                                                    Query Match
Best Local Similarity
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: IBM PC compatible
COMPUTER: YSTEM: PC-DOS/MS-DOS
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CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
                                                                                                                                                                                                                                                                                                                                                                      REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: BWTELECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/205,697
FILING DATE: 02-Mar-1994
ATTORNEY/AGENT INFORMATION:
NAME: MANDERMANDERS, AMY E.
REGISTRATION NUMBER: 36,207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS
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                                                         GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 60
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YKNRTIFDITNNISTVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ISDFEIPTSNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDF 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMYLTMMSGDMNIWPE 86
                                        GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NMTTNHSEMCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
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Pred. No. 5.2e-113;
; Mismatches 0;
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; Patent No. 6277599
; GENERAL INFORMATION
; APPLICANT: Emery,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: Pa
SEQ ID NO 131
LENGTH: 473
                                                                                           Sequence 36, Application US/09460384 Patent No. 6337316 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 216;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: Monoclonal Antibody to CEA, Conjugates Comprising Said TITLE OF INVENTION: Monoclonal Antibody to CEA (Therapeutic Use in an Adept System FILE REFERENCE: Monoclonal Antibody to CEA (CURRENT APPLICATION NUMBER: US/09/171,945 CURRENT FILING DATE: 1998-10-29 PRIOR APPLICATION NUMBER: US9703103.3 PRIOR APPLICATION NUMBER: US9703103.3 PRIOR FILING DATE: 1997-02-14 PRIOR APPLICATION NUMBER: GB9609405.7 PRIOR APPLICATION NUMBER: GB9609405.7 PRIOR FILING DATE: 1996-05-04 PRIOR FILING DATE: 1996-05-04 PRIOR FILING DATE: 1996-05-04 PRIOR APPLICATION NUMBER: PCT/GB97/01165 PRIOR FILING DATE: 1997-04-29 NUMBER: OF SEQ ID NOS: 131
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ORGANISM: Artificial Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIIVWQKEKKMVLIMMSGDMNIWPE 60
                  APPLICANT: EL TAYAR, Nabi
BLECHNER, Stev
JAMESON, Brad
TEPPER, Mark
  TITLE OF
                                                                                                                                                                                                                                                                                                               YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GLSHFCSGVIHVTKEVKEVATLSCGHNVSVEELAQTRIYWQKEKKMVLTMMSGDMNIWPE 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION:
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                                                                                                                                                                                                                                    YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS
                                                                                                                                                                                                                                                                                                                                                                                             YKNRTIFDITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPS 146
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Emery, Stephen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Application US/09171945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
  INVENTION: CD28/CTLA-4 INHIBITING PEPTIDOMIMETICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%; Score 1149; DB 4; 100.0%; Pred. No. 1.1e-112;
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                                                         Steven
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; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
SEQUENCE DESCRIPTION: SEQ ID NO: 36:
US-09-460-384-36
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Search completed: June 18, 2002, 11:43:29 Job time: 22 sec
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FILING DATE: 11-JUN-1998
APPLICATION NUMBER: US 60/049,470
FILING DATE: 11-JUN-1997
ATTORNEY/AGENT INFORMATION:
NAME: YUN, Allen C
REGISTRATION NUMBER: 37,971
REFERENCE/DOCKET NUMBER: EL TAYAR-1A
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 628-5197
TELEPHONE: (202) 737-3528
INFORMATION FOR SEQ ID NO: 36:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 95.9%; Score 1102; DB 4; Length 208; Best Local Similarity 100.0%; Pred. No. 2.8e-108; Matches 208; Conservative 0; Mismatches 0; Indels
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                                                                                                181
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                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/460,384
FILING DATE: 13-Dec-1999
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
ADDRESSEE: BROWDY AND NEIMARK, P.L.L.C.
STREET: 624 Ninth Street N.W., Ste. 300
                                                                                                                                                                      SNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDFNMTTNHSF 180
                                                                                                                                                                                          SNIRRIICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDFNMTTNHSF 188
                                                                                                                                                                                                                                                ITNNLSIVILALRPSDEGTYECVVLKYEKDAFKREHLAEVTLSVKADFPTPŚISDFEIPT 128
                                                                                                                                   MCLIKYGHLRVNQTFNWNTTKQEHFPDN 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES:
                                                                                            HCLIKYGHLRVNQTFNWNTTKQEHFPDN 208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE: D.C.
COUNTRY: U.S.A.
ZIP: 20001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SAME: 37
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